

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

RCRA Facility Assessment Summary

Allied-Signal Corporation (UIC)
Danville, Illinois
IID 005 463 344

US EPA RECORDS CENTER REGION 5



1001583

February, 1990
Robert A. Fuhrer

1. INTRODUCTION

A Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) was completed for Allied-Signal Corporation, Underground Injection Control (UIC) site in Danville, Illinois. The main objective of the RFA was to determine whether there is sufficient evidence of a release of hazardous waste or hazardous constituents to require Allied-Signal to undertake additional investigations to characterize the nature, extent, and rate of migration of the contaminant releases of concern. With information gained from the investigation, appropriate corrective measures can then be undertaken. The reasoning for additional investigations is to protect human health and the environment.

The RFA for the Allied-Signal UIC site included: (1) a Preliminary Review (PR) of all available files; (2) a Visual Site Inspection (VSI) on April 25, 1989; and (3) a Sampling Visit (SV) on November 6-7, 1989.

2. BACKGROUND

A. General

The Allied-Signal (UIC) site is located in Danville, Illinois, 61832, at P.O. Box 13, Brewer Road, Vermilion County. The general population of Danville is approximately 43,600, which is centered about 1 mile west of the site.

Allied-Signal began operations in October of 1955 making GENETRON 12, GENETRON 11 and muriatic acid.

In 1973, the IEPA issued a permit to drill and operate a deep well for the disposal of its acid wastes. Allied-Signal, Danville has generator only status with a UIC well, which is a hazardous waste land disposal unit, that is jointly regulated by the Clean Water Act (CWA) and RCRA. A RCRA Part A application was received on November 17, 1980.

Allied Chemical manufactures and packages refrigerants GENETRON 12 (CCl_2F_2) and GENETRON 11 (CCl_3F), by the chemical reaction between CCl_4 and HF acid which are listed as hazardous waste (U211 & U134). In the processing, Antimony (Sb) Penta-fluoride is used as a catalyst. The process waste consists principally of HCl acid and unreacted HF acid and an Al Cl-F1 complex. Most of the HCl is sold. Off-Spec acid is

collected and disposed of in the on site injection well. The deep well is also used for the disposal of plant pollution control scrubber acids, boiler and cooling tower blowdown and contaminated runoff.

GENETRON 12 is used in refrigeration, auto air conditioning, styrene foams, and food freezing. GENETRON 11 is used for refrigeration, and for the production of urethane foams, styrene foams and solvents. Muriatic Acid is used in food processing and steel pickling. Blending and packaging of refrigerants and aerosol propellants is also performed. Other products that are shipped from here include: "GENETRON" 22, 113, 114, 500, and 502 (Attachment 1).

The facility expanded in; 1969, 1973, and 1978 and is approximately 80 acres, which the plant operation occupies approximately 16 acres (Attachments 2, 3, 4 & 5). Allied-Danville employs between 72 to 85 people based on packaging demand. The laboratory on site performs QA/QC and UIC Permit requirement analysis.

The original energy supply was residential until 1980, when the Illinois Power Company connected Allied with a 69,000 volt power supply. In an event of a power loss, the residential power supply would come on line automatically. One purpose of this electric connection is to heat the injection lines to prevent freeze-up in the winter.

In January 1988, the installation of a surface waste water neutralization facility was completed that allows the waste water to be neutralized to a pH of at least 4, prior to injection.

B. Geology

The surface elevation of the site is approximately 652 mean sea level which gently slopes toward the northwest. The groundwater level averages from 2 to 12 feet deep in the area. From the surface down 4 feet the material is usually gravel fill. From 4 to 9 feet the soil ranges from silty clay to clayey silt loess. From 9 to 20 feet the glacial till is made up of clay, some silt, and sand with gravel. The unconsolidated glacial till is from 100 to 120 feet thick at this site (Attachment 6)

The shallow glacial drift (till/loess) has a hydraulic conductivity of 1.2×10^{-4} cm/sec. The horizontal groundwater flow was calculated to be about 1.5 cm/yr (0.05 feet/year).

The glacial drift lies on shale of the Pennsylvania System which is locally composed of mostly dark shales with some gravels and fine sand. The Mississippian System, Knobstone Formation is locally composed mostly of sandstone with layers of shale, limestone and dolomite. Below this, the Maquoketa Group (Upper Ordovician) is composed of 274 feet of limestone and shale. The St. Peter Formation (below the Maquoketa Group) is composed of sandstone with some limestone and shale. The Prairie du Chien (Lower Ordovician) follows and is directly above the

injection zone of the (Cambrian) Eminence, Potosi, and upper Franconia Formations. The Eau Claire and Mt. Simon lay below the Franconia Formation.

The Illinois State Water Survey in 1972 sampled the Potosi Formations water @ 3843-3948 feet.

pH- 7.1
Chlorides- 15,000 ppm
Nickel- <0.3 ppm
Sulfate- 1,472 ppm
TDM- 26,794 ppm
Temp- 106F

The only local structural feature in Vermillion County is the end of the Marshall-Sidell syncline (Attachment 7).

Allieds potable water comes from the city supply which is from Lake Vermillion.

There are about 35 private wells, ranging from 40 to 585 feet deep, within a 2.5 mile radius of the injection well. Allied-Signal has had 6 recovery wells and 51 monitoring wells all less than 25 feet deep.

After the discovery of groundwater contamination with Carbon Tetrachloride (CCl_4) in 1979, Allied-Signal placed the above mentioned 6 recovery wells. The recovery wells go down only 19 feet while the unconsolidated material goes down 90 feet because there is a hard till layer 20 feet (that persists to 60 feet deep) below the surface with sand lenses that trap the CCl_4 . The shallow groundwater trends toward the northwest. The CCl_4 has migrated downward to approximately 15 feet where there is a sand lense immediately above the dense till layer. The CCl_4 thickness was ranges from 0.12 to 4.05 feet thick. VOC's are encountered from 10 feet to 16 feet. It may be appropriate to further define the extent of the CCl_4 filled sand lenses north and west of the observed area (Attachments 8, 9, 10, 11 and 12).

C. Waste and Disposal

General Waste types on site include; organics, inorganics, heavy metals, acids, and bases from chemical and general manufacturing.

In the drum storage area, north of tank #40, is a 25 by 25 foot concrete pad, surrounded by a 6 inch curb and covered by a roof that is used for storage of materials for less than 90 days. Wastes that may have been stored there are: D001, corrosive waste D002, CCl_4 waste U211, Sb catalyst K021, spent solvents F001, contaminated methylene chloride (MC) U080 and As waste D004. Alpha-methyl-styrene (AMS) with water was discovered in one barrel. D003, D008, D007, D001 (paint sludge), F005, and U080 were also stored in this area, but were not listed in Allieds Part A application. In September 1983 some violations observed included: failure to analyze waste before storage, failure to make a

hazardous determination, and failure to revise Part A with new listing of wastes.

Non-halogenated solvents are deepwell injected, along with chloride salts, muriatic acid, and nickel. A nitromethane waste, which had the characteristics of ignitability (D001) and reactivity (D003), was generated before November 1980, and shipped off site in 1981. In addition a paint sludge having the characteristics of ignitability and E.P. toxicity for chromium (D003) was on site. 110 gallons of this waste was shipped off site on June 15th 1982, and has not been generated since. The facility made two one time shipments; nitromethane on April 3, 1981 and MEK (D001) on May 17, 1984.

Hazardous Waste Processes at Allied at one time included: containerized storage area (S01), acid waste storage tanks and waste collection sump (S02), a deep well injection operation (D79), and a neutralization process (T04). HCL was stored in tanks 33, 34, and 40.

1. S01- Waste Storage Tanks, 20,000 gal, closed 11/25/85
2. S02- Effluent Sump, 452,000 gal, tank 30 & 34, storage <90 day
3. D79- Injection Well, 216,000 gal, withdrawn, storage <90 day
4. T04- Drum Storage Area, 14 gal/day, withdrawn.

The S02 and T04 process codes were withdrawn as of 12/85 by certification that storage was less than 90 days, and that T04 was part of the injection system. In addition, S01 was closed by the IEPA. The facilities only code is D79 for the deepwell injection.

On Oct. 3, 1985, the storage area was closed under IEPA authority. 9 drums of arsenic (As) contaminated waste was sent to SCA, Ft Wayne ID. 4 drums of ignitable liquid waste was sent to TWI, Sauget IL along with 1 drum of waste degreaser and 6 drums of CCl_4 waste. A UIC permit application was submitted to IEPA in June, 1985.

Allied began generating As waste (D004) in 1984. Hydrogen-Fluoride now comes to Allied-Signal from Mexico. This material is used because of the low As content.

The unit that processes low As came on-line in January 1989. This will hopefully minimize the hazardous nature of the waste stream by neutralization. This As treatment involves precipitation from the effluent stream. The As-Sb sludge is produced annually in October during the annual shutdown. This liquid sludge is usually transported to Alabama.

Allied-Signal's EP toxic paint sludge use ended by the end of 1987 by switching to use of non-lead based paint. Before 1984 some of this waste was intermittently injected into the deepwell from 55 gallon drums.

D. Ponds & Tanks

The original placement for the process waste waters (AlCl₃ (27% AlCl₃, 2% fluoride) at Allied-Signal was in Pond #1 from 1954 to 1955. In 1956, because of insufficient capacity, Pond #2 was built and used until 1963. In 1958 Pond #3 was built south of the railroad spurs, that had a variety of names (residue and/or effluent pond; D & E). In the late 1960's Pond #1, stopped being used. In 1980 Pond #3 was closed with a 1 foot clay cap. This pond had "activated" aluminum as fill. Pond #4 was used for temporary storage (while the deepwell was repaired) in 1972 and 1973 and had a overlapping polyethylene (PE) liner. The depth of these ponds is estimated to be from 5 to 10 feet deep. Acid leakage from pumps, pipes and the lagoon are reported as early as 1956. By 1959, discharge of chloride, fluorides, aluminum, and pH were controlled to the Danville Sanitary District and tributary Lick Creek.

<u>Pond#</u>	<u>Initial disposal</u>	<u>Usage stop</u>	<u>Closure</u>
1	1954	late 1960's	
2	1956	1963	
3	1958	1980	1980
4	1972	1973	

Effluent Pond #4 was eventually grassed over and at the same grade as the facility. Effluent Pond #2 was split into two sides, one side grassed over and the other side made up with gravel. Heavy equipment and the new CCl₄ tank are presently over Pond #2. Effluent Pond #1 was entirely covered with gravel and currently has some empty tanks and other equipment stored on top of it.

A concrete lined sump tank was the final accumulation point for the waste to be injected down the injection well. The top of the tank was at ground level. The sump area was concrete lined, but in 1987, the acid brick was removed and welded PE was placed.

There are 3 waste water storage tanks #33 (steel, rubber lined), #34 (fiberglass, rubber lined) each with a 20,000 gallon capacity and #40 (steel) with a 420,000 gallon capacity. The three above ground tanks are used for the storage of dilute off-spec or waste HCl acid along with dilute sodium hydroxide and sulfuric acid. Since storage was no longer that 90 days, tank storage S02 was withdrawn from their Part A, as mentioned above.

Tanks 92 and 93 are the new neutralization tanks that began operation on a continuous basis in January of 1988. Tanks 90 and 91 are As bearing process waste tanks that are neutralized on a batch basis. When one of the tanks is 60% full then a neutralization process is performed.

E. Injection Well

Well #1 (and only injection well) is located 454.04 feet north and 52.87 feet west of the SE corner of SE 1/4 SW 1/4, S. 12, T.19.N, R 11W. of the second principal meridian. Allied-Signal, Danville has a effective permit (UIC-003-WI-AC) for deposition into the : Eminence,

Potosi, and Upper Franconia formations, 2965 feet below mean sea level.

Construction of the deepwell began on July 24, 1972 and was completed in the Mt. Simon formation on October 6, 1972. Hazardous waste injection began on March 16, 1973. In July of 1973, a problem started to develop where the tubing parted, discharging material into the Eminence and other formations. The well was shut down and reworking was completed on October 19, 1973. After recompletion was completed the operation of the deep well began to the Eminence-Potosi Formations on November 27, 1973. The injection discharged into the Eminence, Potosi, and upper Franconia Formations. These formations are above the Mt. Simon Sandstone which was previously used as the injection zone. The maximum injection pressure recorded was 384 psig. The potentiometric surface of the injection zone is 483 feet, msl. Twenty various types of mechanical integrity tests from 1974 to 1986 were conducted. From these tests the disposal interval was measured and it was discovered that no leaks had occurred.

In a study conducted in June of 1988, seventy-eight lengths of the UIC well showed no more than 20% corrosion of the body wall, Three lengths showed evidence of corrosion exceeding 20% but less than 41% of the nominal body wall. One length was found to show evidence of corrosion exceeding 40% but less than 61% of the nominal body wall. Of a total of 82 lengths with a total footage of 3542 feet, no lengths were found to show evidence of corrosion exceeding 60% of the nominal body wall.

Injected waste characteristics in 1983 can be seen in Attachment 13.

F. UIC Permit and Public Hearings

The Final UIC Class I Injection Well Permit #UIC-003-WI-AC was issued March 30, 1987, with the effective date being May 4, 1987, and expiration on May 4, 1991. The permit has been modified on 5/5/87, 9/9/88, 10/3/88, and on 4/11/89. This permit allows for the injection of hazardous waste consisting of a maximum of 125 gallons per minute (gpm) of contaminated storm water, HCl, vent scrubber discharge, boiler blowdowns, cooling tower blowdowns, dilute waste caustic from a scrubber, HF vent scrubber discharge, water softening equipment backflush, and by-product HCl into the Eminence, Potosi, and Upper Franconia Formations. All waste are neutralized prior to injections. A groundwater monitoring plan is called for in this permit. Allied-Signal must also operate and maintain a system to neutralize the plant process wastewater (Permit Condition 19). Permit Condition 30 says they must continue to research the As contamination on site from the effluent waste stream. Allied stated that, no hazardous waste residues were found when the drum storage pad was inspected as required by the UIC permit. The permit also requires an annual EP Toxicity Test for As, Ba, Cd, Cr, Pb, Hg, Se, and Ag on Allieds composite waste stream. The EP Toxicity Analysis on Allieds composite waste stream from 9/12 to 9/19/88 (ppm) is shown in Attachment 14.

The maximum limit Waste Parameters are:

TOC-		200 mg/l
As-	(D004)	500 mg/l
pH-		5-10
Specific Gravity-		1.2
Inorganic Cl (NaF)-		25,000 mg/l

Inorganic salts include CaF_2 and AlF_3 .

Before the permit was issued, a public hearing occurred on Wednesday December 17, 1986 at 7:00 p.m.. Approximately 105 citizens showed up. The initial public comment period was from August 15, 1986 to September 16, 1986. The hearing record closed on January 12, 1987. A additional public hearing for the UIC Permit took place on May 26, 1988, with the public comment period ending on June 26, 1988.

On October 20, 1988, The Illinois Pollution Control Board (IPCB) was petitioned by the Citizens for the Control of Hazardous Waste Injection asking the IPCB to modify the permit after issuance. The IPCB stated that generally, third party challenges to (state issued UIC) permits are not allowed. But, the Illinois Revised Statutes specifically grants standing to petitioners to contest issuance of RCRA permits for hazardous waste disposal sites. The IPCB ordered that briefs be presented to the PCB. Allied stated that the IPCB appeals were dropped sometime in February of 1989.

G. Releases & Discharges

Most releases occurred from 1955-1973 and are documented in the form of memos and letters in IEPA files. Before the installment of the injection well, high levels of dissolved solids (DS), chlorides, fluorides, pH, COD, aluminum, and suspended solids (SS) entered Lick Creek. Complaints were received from the Danville Sanitary District and rural residents around the plant concerning discharges in the tributary of Lick Creek from old lagoons at Allied during the period from 1956 to 1973 (prior to the injection well).

a, h Vincent Koers, in a letter 1986, stated that Allied has failed to address current surface contamination problems related to inadequate pre-treatment, fume collection, and surface containment of process chemicals and waste. Mr. Koers states that complaints were made about "milky waters" in the streams, bird kills, crop damage, and highway drainage structures. Mr. Michaud states in a separate letter that they have lived next to Allied for 33 years with air pollution from the plant, and has seen damaged vegetation, pitted aluminum, rusted metal (indoor & outdoor), and etched window glass (HF can etch silica).

Allied has reported a one-time burial event in the middle 1960's of a discarded 3876 six oz. and 7692 twelve oz. aerosol cans with urethane foam.

About 157,500 tons of corrosive waste, constituents include tetrachloromethane (U211), and rain water were injected into the deep well annually. Before 1984, the injected wastes had a pH less than 2. About 1100 kg of an As-Sb sludge were produced annually after the cleaning of the sumps.

In May 1972, 5 tons of SbCl_3 were spilled from a melting tank in the Genetron 12/11 process area. HCl vapors were released. In April 1978, a catalyst stripper reboiler leaked 2 ppm HCl fumes. In July 1982, the genetron 12/11 process released 500-1000 lbs of HCl and HF gas. In March 1984, 59.3 tons of Genetron 12 escaped. In August 1984, 750 gallons of HCl spilled. In October 1984, HCl and catalyst were emitted in unknown amounts. Allied has 7 air permits and no apparent violations at present.

Attachment 15 shows results of Allied's estimated releases in 1987.

In 1979, a large slug of CCl_4 was discovered under the railroad unloading area of the facility. Geraghty & Miller investigated the groundwater pollution identifying CCl_4 under the unloading and storage area west of the "active" pond (Pond #3). A hole in the CCl_4 storage (tank #16) and asphalt base underneath it was discovered after July 1979. The storage tank involved in the CCl_4 leak incident was cleaned and cut up for scrap in June 1980. The replacement tank was put into service in late 1979. The CCl_4 was removed at an annual rate of 2000 gallons annually. CCl_4 was injected in the deepwell from five 6 inch diameter, and one 2 inch diameter recovery wells.

Currently 3 recovery wells are pumped 2 to 3 times a week. In May 1989, a total of 11,000 gallons of CCl_4 have been recovered. Approximately 8,000 gallons were deep-well injected before 1984, and the rest was sent off site or is in (less than 90 day storage) their hazardous waste storage area. In 1984 there was a drop off of CCl_4 recovery, so the number of recovery wells being used was reduced from 6 to 3.

There were quarterly reports for 15 monitoring well dating back to 1986, that sampled for Cl, SO_4 , Ba, Sb, Fl, & CCl_4 . Twelve (12) of the monitoring wells detected the presence of CCl_4 in amounts ranging from 0.005 ppm to 834 ppm.

Vincent Koers says 100,000 gallons of CCl_4 spilled. Another concern of his was As in the spring possibly coming from the injection well.

3. SAMPLING RESULTS

On November 6 and 7, 1989, 12 soil samples were taken from 2 to 4 feet deep from around the Allied-Signal Danville Plant. All samples were analyzed for VOC's, metals, chlorides, fluorides, and sulfates. Allied-Signal took split samples. All of the metals were below background

levels and within the normal concentration range of metals in soil.

Several organics showed significant levels including, chloroform, methylene chloride, 1,1,1-trichloroethane, and CCl_4 .

Sampling locations 3, 5, and 10 showed the highest levels of contaminant (Attachment 5) organics at this site with 240 ppb chloroform, 140 ppb chloroform, 80 ppb CCl_4 , and 34 ppb 1,1,1-trichloroethane. These levels can most likely be attributed to the leaking and continuing "clean-up" of the CCl_4 tank in 1979 and the other loading and unloading of material at the site. Releases of organics from SWMUs was not directly evident in this sampling event.

Samples 3, 4, 5, 6, 7, 8, 10, and 12 all exhibited high (a minimum of 8 times above background) values of chlorides, fluorides, or sulfates. Only the two background samples and samples 9 and 11 shared low values of chlorides, fluorides and sulfates. Samples 3, 6, and 12 had the highest values of fluorides (7100 ppm), chlorides (1500 ppm), and sulfates (382 ppm) respectively (Attachment 16). These values represent possible releases of chlorides, fluorides or sulfates from Allied-Signals SWMUs.

4. CONCLUSIONS

The monitoring system may not be adequate for detecting groundwater contamination from any of their SWMUs. The current well array of 12 monitoring wells with 6 recovery (3 active) CCl_4 is limited to the upper 16 to 19 feet of unconsolidated material which can be up to 90 feet thick.

By 1975, it was said that Allied's control program "adequately" alleviated the past water pollution problems.

In the railcar loading/unloading area, 1 drip pan has been placed under a HCL tank car area with 4 more that are planned to be placed under the CCl_4 car area. The benefit of these drip pans would be to prevent an accidental spill from the unloading area being discharged directly to the ground, instead it would be captured and possibly recovered.

Possible future pollution control measures for this Allied-Signal site could be: increased removal or remediation of the CCl_4 contamination and continued monitoring wells at discrete depths; re-cover graveled parts of SWMUs; continued placement of spill collection drains at likely spill locations, cathodic protection of tanks and pipelines; and reduction of hazardous materials by waste minimization.

PRODUCT APPLICATIONS 1989

GENETRON® 12

REFRIGERATION

AUTO AIR CONDITIONING

STYRENE FOAMS

FOOD FREEZING

MURIATIC ACID

FOOD PROCESSING

STEEL PICKLING

GENETRON® 11

REFRIGERATION

URETHANE FOAMS

STYRENE FOAMS

SOLVENTS

OTHER PRODUCTS

GENETRON® 22

GENETRON® 113

GENETRON® 114

GENETRON® 500

GENETRON® 502

Attachment 2

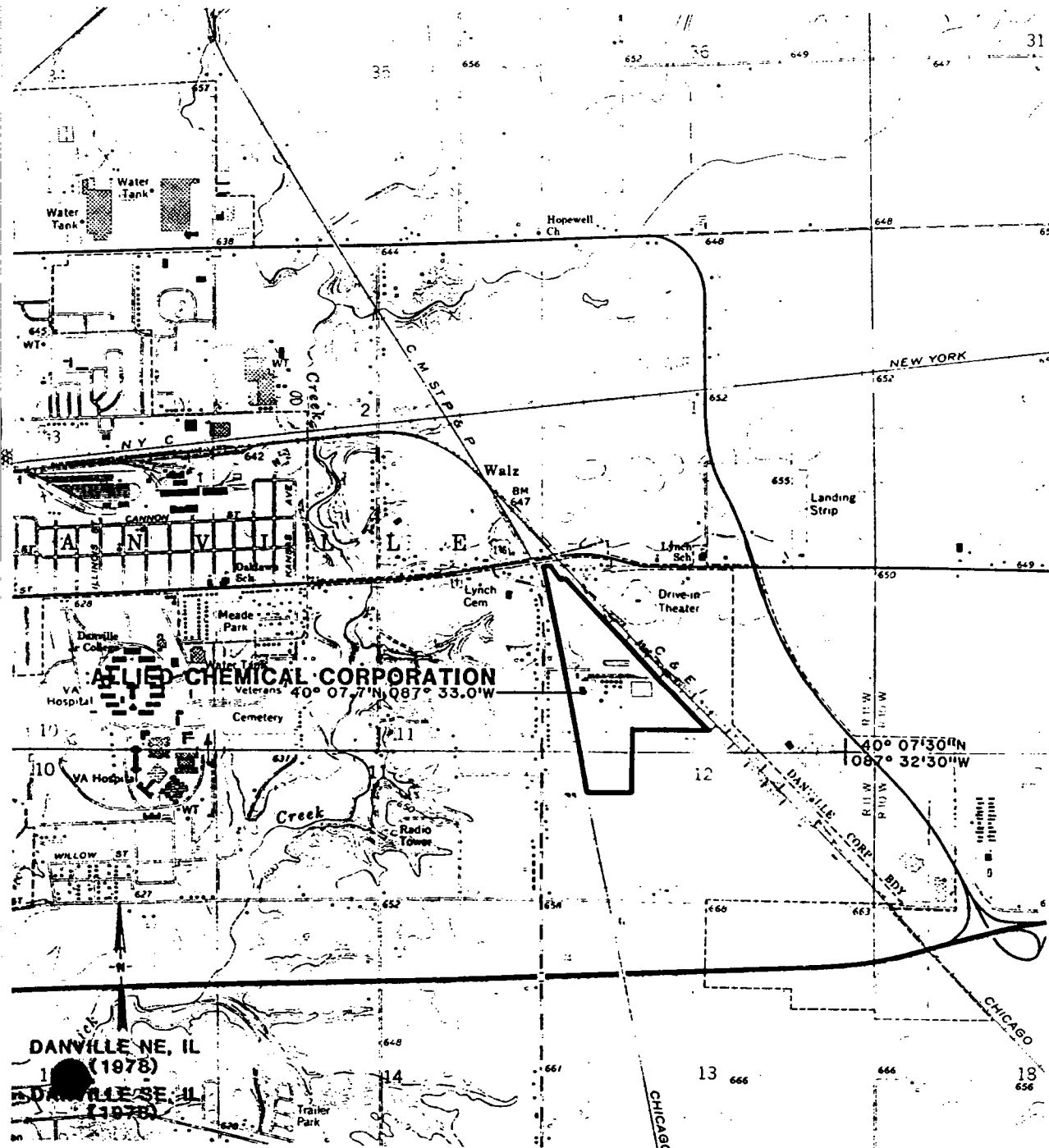


Figure 2. Site location map, Danville, Illinois. NO Scale

REF ID: A11111

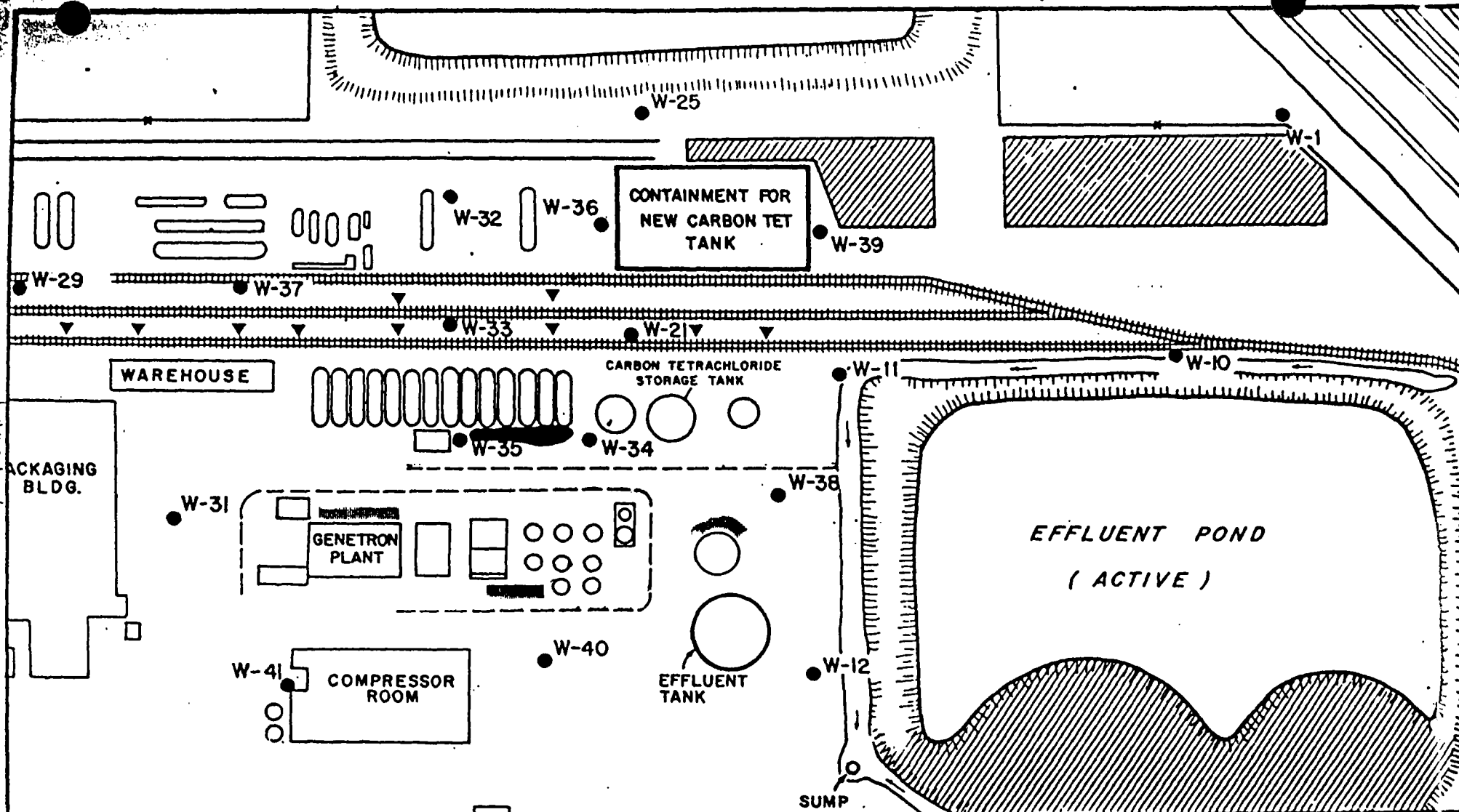
1. Waste Storage Tanks
(33,34,38,40)
2. Effluent Sump (25' x 10' x 10')
3. Injection Well (3700')
4. Drum Storage Area (30' x 30')

Attachment 3



1979

Attachment 4



EXPLANATION

- W-31 MONITORING WELL LOCATION AND NUMBER
- ▼ TANK CAR UNLOADING SPOTS
- CORRODED CEMENT FOUNDATIONS
- - - CORRODED SURFACE DRAINAGE CHANNELS
- DISCOLORED GRAVEL PADS



APPROXIMATE
EXTENT OF
BURIED WASTE
MATERIALS

0 100
feet



NORTH

GERAGHTY & MILLER, INC.

TITLE

POTENTIAL SOURCES OF GROUND-WATER CONTAMINATION

PREPARED FOR
ALLIED CHEMICAL CORPORATION
DANVILLE PLANT DANVILLE ILLINOIS

DATE JULY 1979 SCALE AS SHOWN PREPARED BY M. WARFEL FIGURE 1

TABLE 1 Attachment 5

Solid Waste Management Units
At Allied-Signal
Danville, Illinois

UNIT IDENTIFIER ¹	UNIT NAME
1	Inactive Pond #1
2	Inactive Pond #2
3	Closed Pond #3 ²
4	Inactive Pond #4
5	Overhead Injection Line
6	Hazardous Waste Drum Storage Area and Site Drainage Collection Point
7	Main Carbon Tetrachloride Recovery Well Area/General Production Spill Area
8	Drainage Ditch Downstream of Deep Well Injection Facility/Drainage Ditch for Facility Before Secondary Containment System Installed
9	Urethane Foam Burial Site

¹Numbers correspond to units on facility map (Figure 1)

²Pond #3 was closed in 1980 under the direction of IEPA

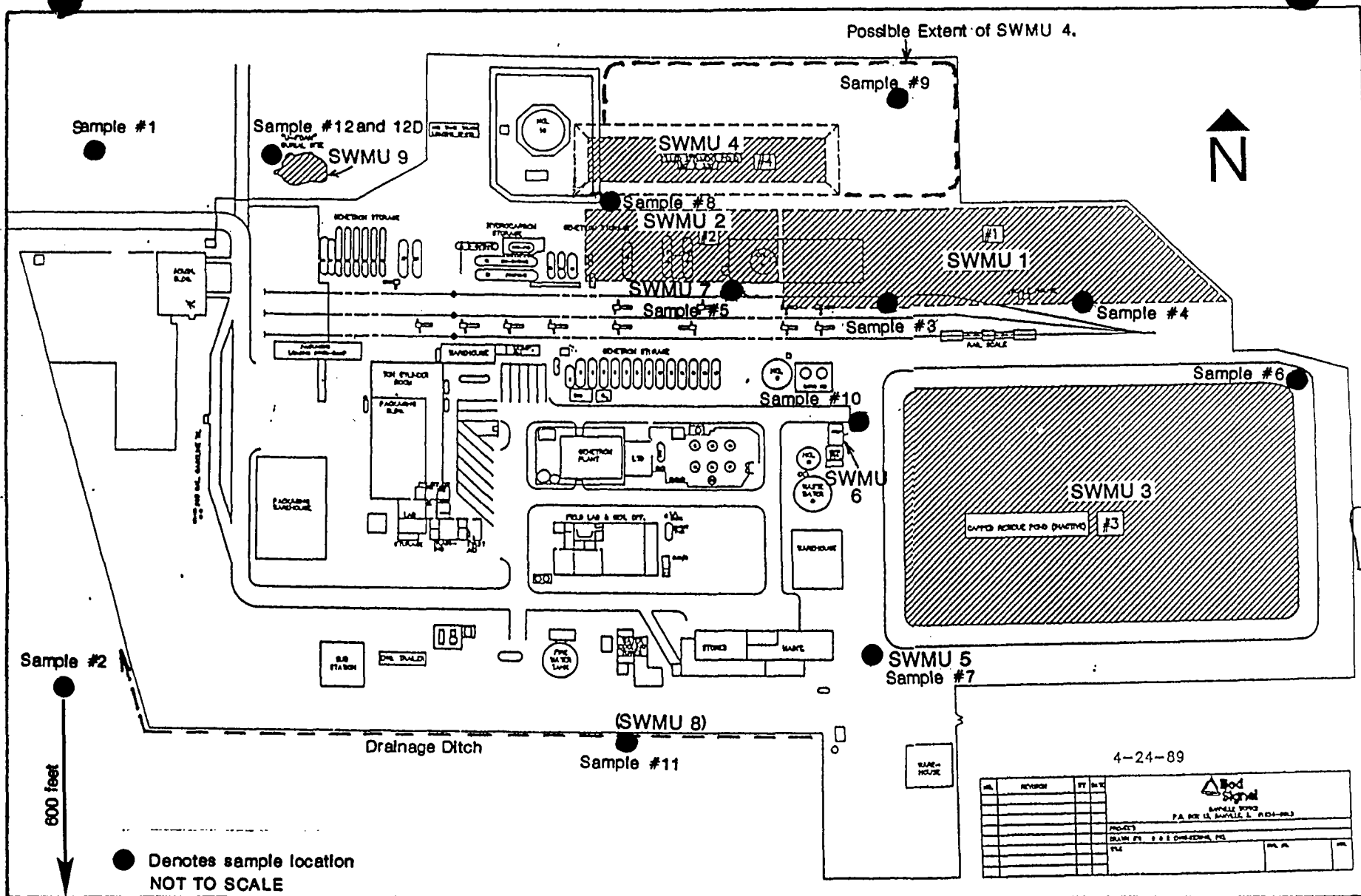


Figure 1.
Solid Waste Management Units and Sampling Locations Allied - Signal, Danville, Illinois
 (Modified after Allied - Signal, April 24, 1989)

Attachment 6

(65400-492K-10-57)



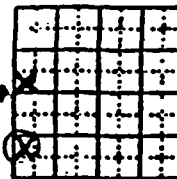
Page 1

ILLINOIS GEOLOGICAL SURVEY, URBANA

Strata	Thickness	Top	Bottom
Black soil		0	1
Soft silty light yellow-gray clay		1	4
Soft silty rusty-yellow clay		4	6
Soft silty rusty-yellow clay, thin streaks fine red sand		6	9
Hard sandy gray clay, gravel and stones		9	32
Loose fine to coarse gray sand,		32	33½
Very hard sandy clay, gray, gravel and pebbles embedded		33½	54
Loose silty fine to coarse gray sand		54	56
Very hard sandy gray clay, gravel embedded		56	65
Softer sandy gray clay, more gravelly		65	72
Hard shale like gray clay, streaks of green-blue, gravelly		72	78
Soft shale like green-blue clay, streaks of brown soil		78	83
Hard shale like dark gray clay		83	88
Hard shale like green-gray clay		88	92
Hard shale like green-gray clay streaks of yellow-brown		92	111
Soft red-brown clay, streaks of green-gray		111	115
Softer shale like brown clay		115	125
Very soft dark gray clay		125	126½
Harder dark gray clay		126½	130
Hard black shale		130	133
Coal		133	135
			TD

S. S. #34402

COMPANY Layne-Western Co.
 FARM General Chem. Division, Allied Chem. 2
 DATE DRILLED July 1959 COUNTY NO. 1357
 AUTHORITY Layne-Western Co.
 ELEVATION
 LOCATION SW SW NW
 COUNTY VERMILION



12-19N-11W

12.82

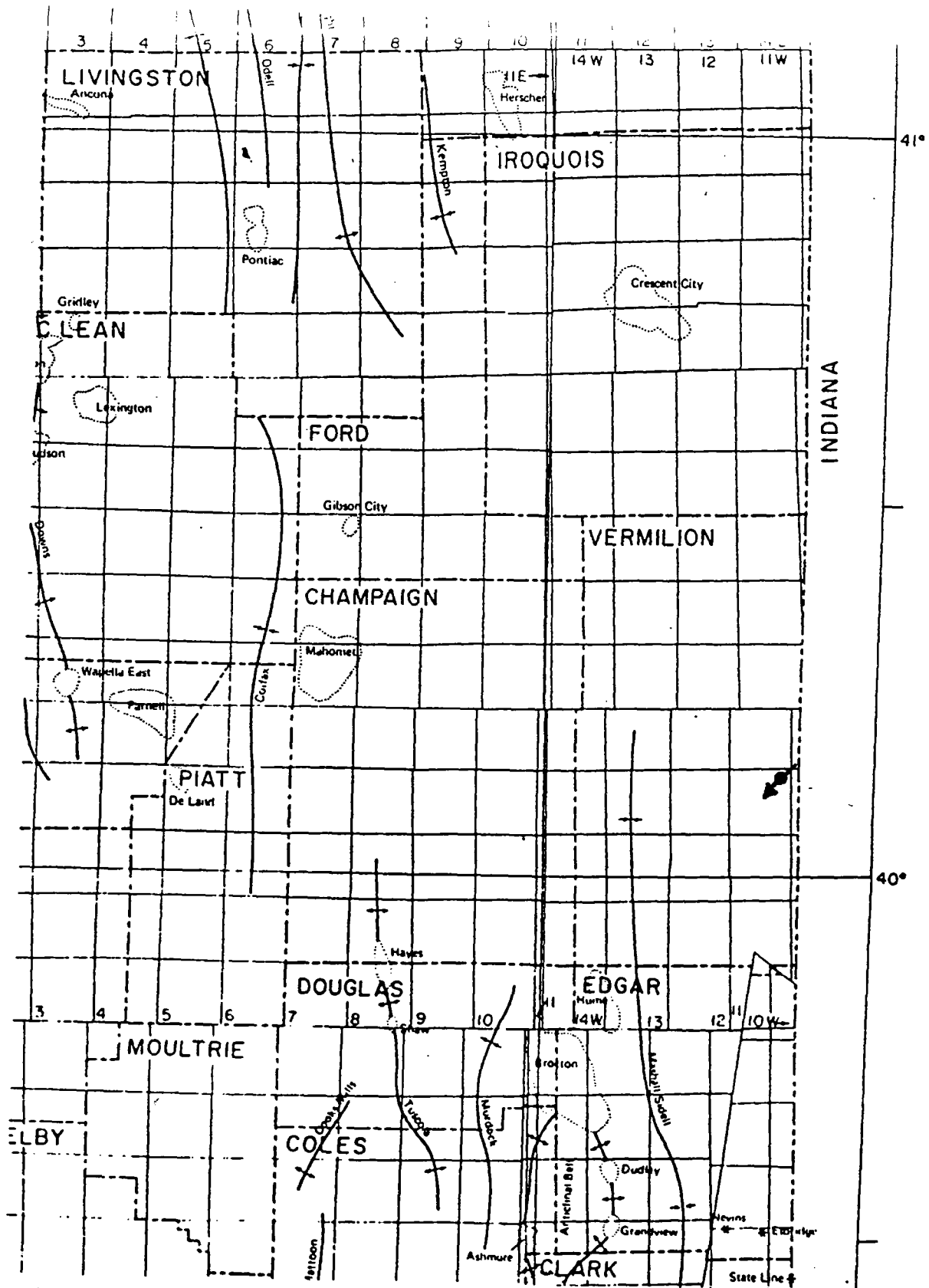


Figure 3-5 Structural Features of Vermilion County Area (from ISGS Circular 519, Plate I)

Attachment **B**

1986

GERAGHTY AND MILLER, INC.

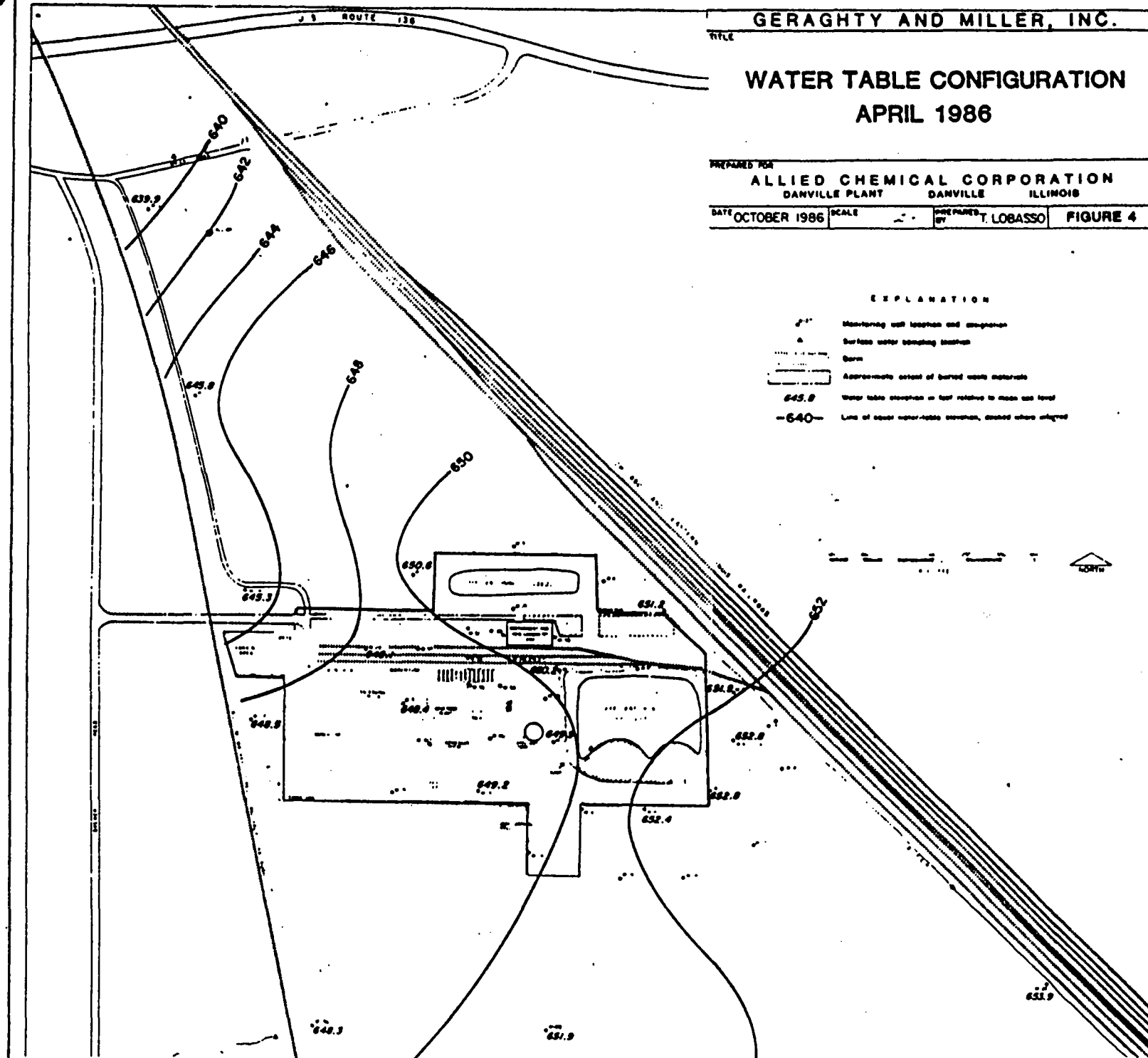
WATER TABLE CONFIGURATION APRIL 1986

PREPARED FOR
ALLIED CHEMICAL CORPORATION
DANVILLE PLANT DANVILLE ILLINOIS

DATE OCTOBER 1986 SCALE 1" = 100' DRAWN BY T. LOBASSO FIGURE 4

EXPLANATION

- Monitoring well location and designation
- Surface water sampling location
- Burn
- Approximate extent of buried waste materials
- Water table elevation in feet relative to mean sea level
- Line of equal water-table elevation, labeled where assigned



Attachment 8

1987

ALLIED SIGNAL, INC.
DANVILLE, ILLINOIS

N

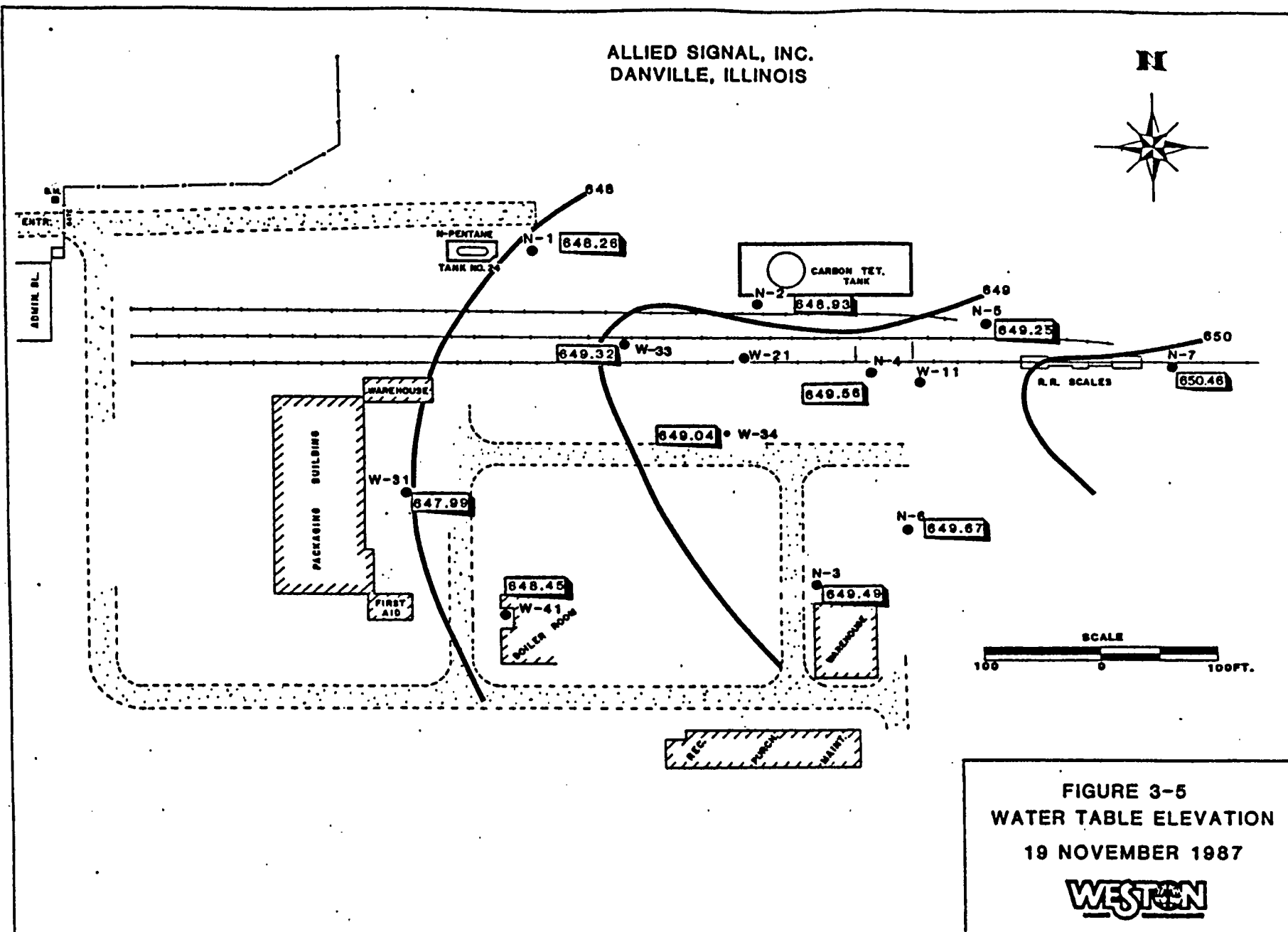
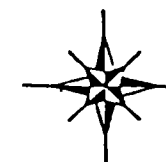


FIGURE 3-5
WATER TABLE ELEVATION
19 NOVEMBER 1987

WESTON

Attachment 9

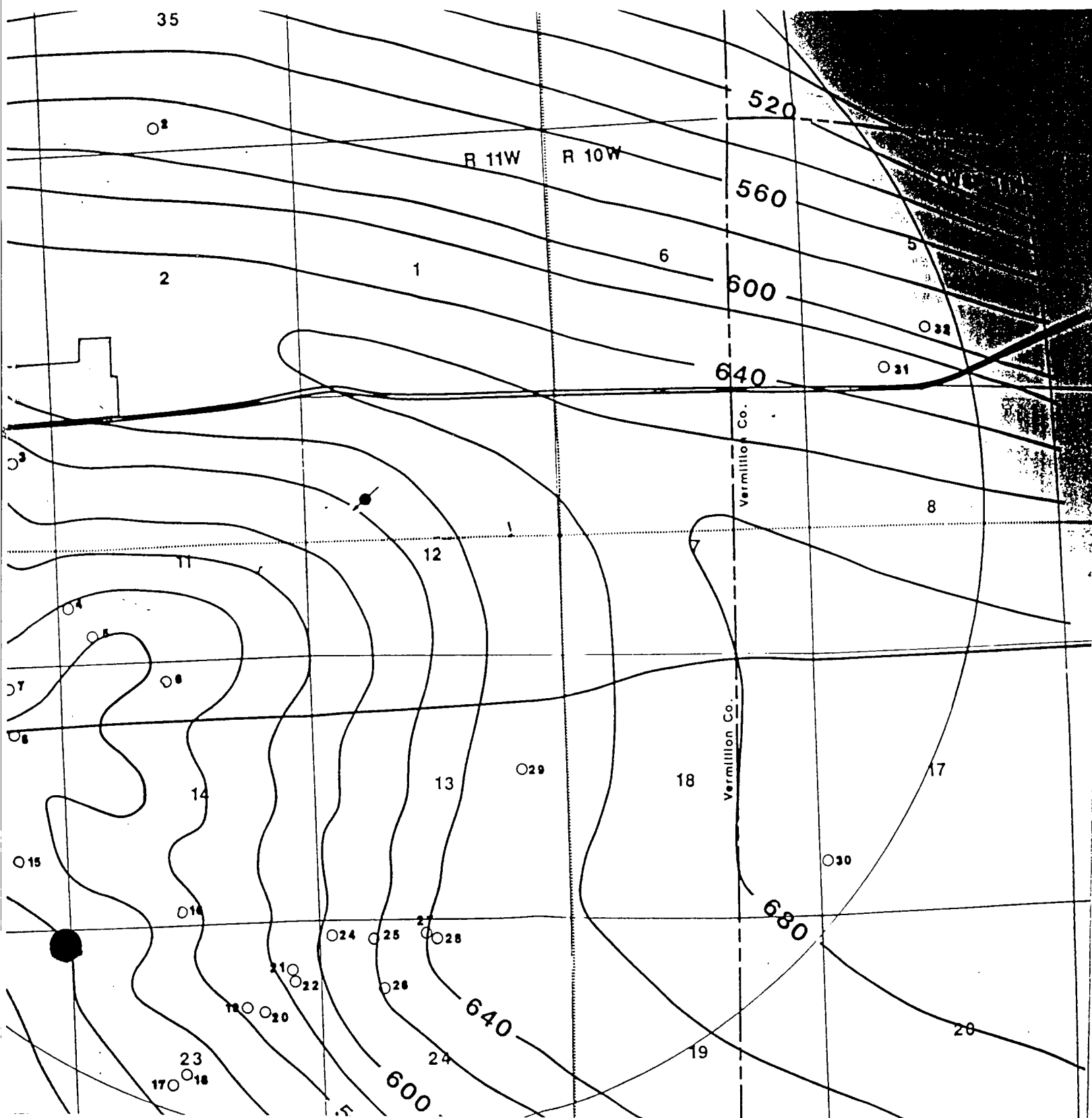
Potentiometric surface map of
uppermost aquifer 1/88 by E.I. duPont de Nemours
Attachment 10



injection well

water wells

Contour interval
20'



**Allied
Chemical**

P.O. Box 15
Danville, Illinois 61832
(217) 446-4700

Attachment 11

April 22, 1983

RECEIVED

APR 25 1983

**E.P.A. - D.L.P.C.
STATE OF ILLINOIS**

Illinois Environmental Protection Agency
Division of Land Pollution Control
On-Site Facility Unit
2200 Churchill Road
Springfield, Illinois 62706

RE: PERMIT NO. 1982-UIC-2-OP

Dear Sirs:

Attached are the analytical results from first quarter sampling of monitor wells; W-1, W-2, W-5, W-6, W-7, W-8, W-10, W-11, W-12, W-20, W-21C, W-23, W-24, W-28, and W-30.

Also attached are the monthly reports for the first quarter for pumping wells; R-1, R-2, R-3, R-5, and W-11 for recovery of carbon tetrachloride.

If you have any questions, please telephone me.

Very truly yours,

N. A. Lanter

N. A. Lanter
Supervisor - Environmental Services

NAL:cmm

MARCH 1983

DANVILLE WORKS

WELL PUMPING

Attachment 11

GALLONS CARBON TETRACHLORIDE RECOVERED

	R-2		R-4		R-5		Daily	Total
	Daily	Total	Daily	Total	Daily	Total		
	0.5	2624.6	1.0	2004.1	0.0	1728.2		
	0.5	2625.1	1.0	2005.1	0.0	1728.2		
	0.0	2625.1	0.5	2005.6	1.0	1729.2		
	0.0	2625.1	0.5	2006.1	1.5	1730.7		
	0.0	2625.1	1.5	2007.6	0.5	1731.2		
5	0.0	2625.1	1.5	2009.1	1.0	1732.2		
6	0.5	2625.6	0.5	2009.6	1.0	1733.2		
7	0.0	2625.6	0.5	2010.1	0.5	1733.7		
8	1.0	2626.6	1.0	2011.1	0.5	1734.2		
9	0.5	2627.1	1.0	2012.1	1.0	1735.2		
10	1.0	2628.1	1.0	2013.1	1.0	1736.2		
11	0.0	2628.1	0.5	2013.6	1.5	1737.7		
12	0.5	2628.6	1.5	2015.1	1.0	1738.7		
13	0.0	2628.6	1.0	2016.1	1.0	1739.7		
14	0.5	2629.1	2.0	2018.1	6.1*	1745.8		
15	0.0	2629.1	0.5	2018.6	0.0	1745.8		
16	-	2629.1	-	2018.6	-	1745.8		
17	1.0	2630.1	2.9	2021.5	0.0	1745.8		
18	0.0	2630.1	2.0	2023.5	2.2	1748.0		
19	0.0	2630.1	0.5	2024.0	0.3	1748.3		
20	0.5	2630.6	1.5	2025.5	1.3	1749.6		
21	0.0	2630.6	0.5	2026.0	2.0	1751.6		
22	0.0	2630.6	0.5	2026.5	2.0	1753.6		
23	0.0	2630.6	1.0	2027.5	1.0	1754.6		
24	0.0	2630.6	0.5	2028.0	1.5	1756.1		
25	0.5	2631.1	0.2	2028.2	0.0	1756.1		
26	0.0	2631.1	0.0	2028.2	0.5	1756.6		
27	0.2	2631.3	2.0	2030.2	2.0	1758.6		
28	0.0	2631.3	1.5	2031.7	1.5	1760.1		
29	0.0	2631.3	1.0	2032.7	1.0	1761.1		
30	0.5	2631.8	1.0	2033.7	0.5	1761.6		
31								

* Mostly water

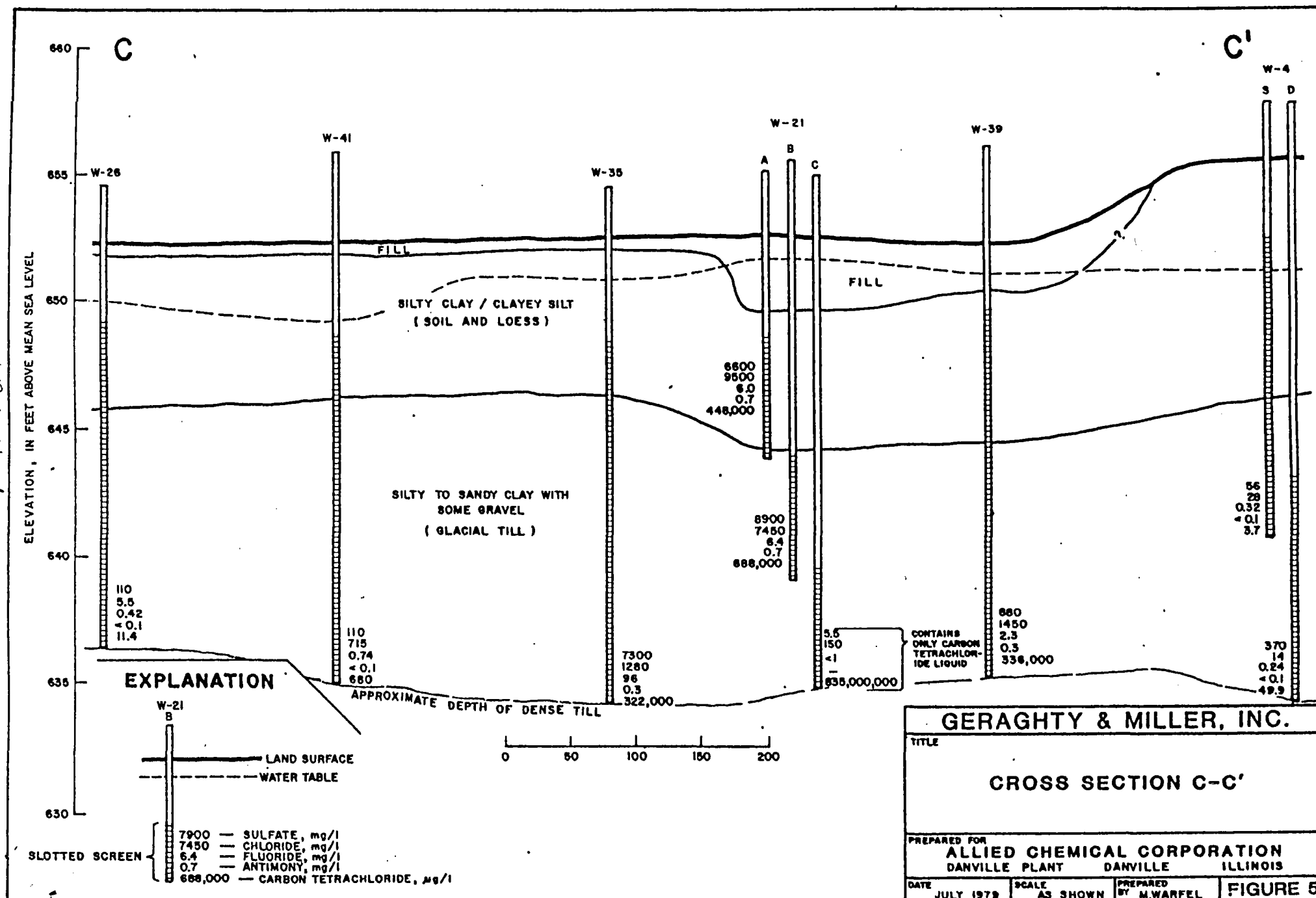
RECEIVED

APR 25 1983

E.P.A.
STAT. SECTION

1979

Attachment 12



Attachment 13

ALLIED CORPORATION
DANVILLE WORKS
DEEP WASTE DISPOSAL WELL
JANUARY 1983

Summary of Operations:

1. Samples of injected waste were collected every eight hours of injection time and composited each week. Analysis of weekly composites were:

Week Ending	<u>1-10</u>	<u>1-17</u>	<u>1-24</u>	<u>1-31</u>
pH	1.50	1.45	1.49	1.38
Specific gravity	1.021	1.022	1.019	1.024
Sample temperature, °F	58	64	67	66
% HCl	2.75	2.79	2.44	3.20
% HF	.17	.15	.11	.12
Inorganic chlorides, ppm	6303	6276	6206	6111
Inorganic salts (NaF) ppm	512	440	370	297
Organic material (TOC) ppm	15.5	17.0	14.8	16.6
Free chlorine, ppm	43	6.4	5.6	0.7
Suspended solids, ppm	13	12	13	15
Nickel, ppm	2.95	2.60	2.50	2.43

2. Viscosity of the weekly sample, 1-3 to 1-10, was 0.5440 cp at 100°F.
3. Oil volume in the annulus remained unchanged.
4. Null conductivity reading was 0.21 Micromhos.
5. Attached is a list of operating data obtained during the month.

RECEIVED

FEB 24 1983

E.P.A. — D.L.P.C.
STATE OF ILLINOIS

Attachment 14.

Allied-Signal, Inc.
Permit # UIC-003-W1-AC

EP Toxicity Analysis

In accordance with 35 I.A.C. 721.124 and per the requirements of I.H. 28 of the operating permit the results of the extraction procedure (EP) toxicity on a composite waste stream (9/12 - 9/19/88) are as follows:

	mg/L (ppm)
Arsenic (As)	37.5
Barium (Ba)	1.24
Cadmium (Cd)	<0.005
Chromium (Cr)	0.008
Lead (Pb)	<0.10
Mercury (Hg)	<0.0002
Selenium (Se)	0.045
Silver (Ag)	<0.01

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Toxic Release Inventory SystemAllied-Signal Corporation (UIC)
Danville, Illinois
ILD 005 463 344

1987 estimated releases in pounds.

1. Aluminum Oxide
13,600- to landfill/disposal surface impoundment, CWM Emelle, Al.
56,000- to landfill/disposal surface impoundment, Danville H&L#2
154,000- to UIC
2. Sulfuric Acid
15- Stack or point air emissions
9,700- UIC
3. Genetron 113
2,900- Fugitive or non-point air emissions
10,400- Stack or point air emissions
4. Antimony Compounds
5- Fugitive or non-point air emissions
1- Stack or point air emissions
5- Discharge to water, unnamed tributary to Lick Creek
700- UIC
5. Arsenic
1- Fugitive or non-point air emissions
2- Stack or point air emissions
14,800- UIC
1- POTW discharge
2- Chemclear- Chicago, IL & CWM Emelle, Al
6. Carbon tetrachloride (CCl₄)
13,000- Fugitive or non-point air emissions
700- Stack or point air emissions
40- Discharge to water, unnamed tributary to Lick Creek
800- UIC
5,900- TWI, Sauget incinerator/thermal treatment
7. Chlorine
10- Fugitive or non-point air emissions
6,200- UIC
8. Hydrogen Fluoride
15,000- UIC
9. HCl
5000- Fugitive or non-point air emissions
2,500- Stack or point air emissions
3,325,000- UIC
750- Released to land (D99)



PROJECT : 430.15-1
CASE : 5064 E
CONTROL # : 1458

PAGE : 1

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* wb = wet basis
  adb = air dried basis
```

C. Thompson
LABORATORY MANAGER

FILE COPY



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

230 SOUTH DEARBORN ST.

CHICAGO, ILLINOIS 60604

OCT 20 1989

REPLY TO THE ATTENTION OF:

5HR-13

Allied-Signal, Inc. (UIC)
Mr. Don Phillips
P.O. Box 13
Danville, Illinois 61834-0013

Re: RFA Sampling Visit (SV)
ILD 005 463 344

Dear Mr. Phillips:

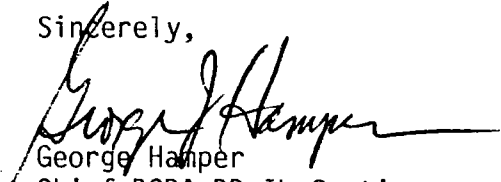
This is to confirm the telephone conversation of 10/19/89 concerning the collection of samples from your facility at 8:00 a.m., on November 6, 1989.

Under the 1984 Hazardous and Solid Waste Amendments (HSWA) to the Resource Conservation and Recovery Act (RCRA), assessments are to be made of all facilities that, treat, store, or dispose of hazardous wastes. This is to determine whether or not releases of hazardous wastes or hazardous constituents have occurred or are occurring at the site which require further investigation. Facilities that have attained generator-only status, by closing hazardous waste treatment, storage, and/or disposal units, are not exempted from this requirement of inspection.

Section 3007(a)(2) of RCRA authorizes the U.S. EPA, or its representatives, to collect samples at any site that generates, stores, treats, transports, disposes of, or otherwise handles or has handled hazardous waste. We will carry out the sampling under this authority. An outline of the proposed locations and constituents that will be tested for is enclosed. A detailed sampling plan will be provided to you at the time of sampling.

If you have any questions, please call Robert Fuhrer of my staff at 312/353-4889.

Sincerely,


George Hamper
Chief RCRA PB-IL Section

enclosure

c. Mr. Larry Eastep- IEPA

(5A)

(5T)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

230 SOUTH DEARBORN ST.

CHICAGO, ILLINOIS 60604

DRAFT

REPLY TO THE ATTENTION OF:

May 26, 1989

5HR-13

Mr. Donn Hirschmann
Manager--Pollution Control
Allied-Signal Inc.
Engineered Materials Sector
P.O. Box 1139R
Morristown, NJ 07960-1139

Dear Mr. Hirschmann,

As requested by your FOIA letter dated May 19, 1989, enclosed is a copy of the Visual Site Investigation (VSI) that took place on April 25, 1989 for the Allied-Signal Inc.'s Danville, Illinois Facility (ILD 005 463 344).

The various materials that were asked for on the VSI were received on May 11, 1989.

A sampling visit to the Allied-Signal Inc. Danville facility will be planned for the near future as part of the RCRA Facility Assessment.

Sincerely,

Robert A. Fuhrer

c. Larry Eastep-IEPA

51

Sent out
3/29/89

Allied Chemical- Danville (UIC) ILD 005 463 344

Robert A. Fuhrer, RCRA Permitting

Water Division

We are in the process of conducting a RCRA Facility Assessment (RFA) for the Allied Chemical (UIC) facility in Danville, Illinois. A Visual Site Inspection is planned for April 25, 1989. We are interested in obtaining any information that may be in your files that would aid in the preparation of the RFA. Please call Robert Fuhrer @ 3-4889 if there are any questions, thank you.

c. Mr. Joe Boyle, REB

(5)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: FEB 5 1988

SUBJECT: Allied Corporation/Danville, Illinois/ILD 005 463 344

James N. Mayka, Chief
FROM: Illinois Permit Section (5HS-13)

Donald W. Josif
TO: Planning & Contracts Unit (5HR-11)

Call This guy

This is a follow-up to our February 4, 1988 conversation concerning the Allied Corporation facility in Danville, Illinois.

We have no objection to your office performing a PA/SI at this facility. A RCRA Facility Assessment (RFA), the PA/SI analog in our program, is not targeted for this facility until late in FY 90. The only RCRA-regulated unit at this facility is an injection well, which has a permit-by-rule through the UIC program. The groundwater beneath this facility is known to be contaminated with carbon tetrachloride. Assuming your program policies allow such work, a prompt PA/SI would provide valuable information for the Region's Environmental Priorities Initiative and to the RCRA corrective action program.

Please contact me at 6-0987 if you require additional information.

*2-16-88
Bill Messenger:
OK to proceed
on basis of this
memo. FIT
given copy + told
to proceed.
dwj.
2-16-88*

RECEIVED
FEB 6 1988

RECEIVED

Program
Support Section

39

CORRECTIVE ACTION STABILIZATION QUESTIONNAIRE

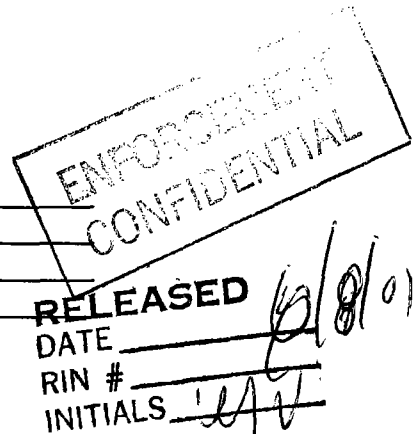
RECEIVED
W. J. RAYBURN CENTER

OCT 18 1992

Completed by: Mary Wojciechowski
 Date: September 17, 1992

Background Facility Information

Facility Name: Allied-Signal Corporation
 EPA Identification No.: ILD 005 463 344
 Location (City, State): Danville, Illinois
 Facility Priority Rank: High



1. Is this checklist being completed for one solid waste management unit (SWMU), several SWMUs, or the entire facility? Explain.

Entire Facility
9 SWMUs

Status of Corrective Action Activities at the Facility

2. What is the current status of HSWA corrective action activities at the facility?
- ☐ No corrective action activities initiated (Go to 5)
- ☒ RCRA Facility Assessment (RFA) or equivalent completed
- ☐ RCRA Facility Investigation (RFI) underway
- ☐ RFI completed
- ☐ Corrective Measures Study (CMS) completed
- ☐ Corrective Measures Implementation (CMI) begun or completed
- ☐ Interim Measures begun or completed

3. If corrective action activities have been initiated, are they being carried out under a permit or an enforcement order?

☐ Operating permit
☐ Post-closure permit
☐ Enforcement order
☒ Other (Explain)

Past corrective actions were voluntary.

4. Have interim measures, if required or completed [see Question 2], been successful in preventing the further spread of contamination at the facility?

☐ Yes
☐ No
☒ Uncertain; still underway
☐ Not required

Additional explanatory notes:

Remediation of a contaminant plume in ground water is underway but there are other areas where remediation maybe necessary.

Facility Releases and Exposure Concerns

5. To what media have contaminant releases from the facility occurred or been suspected of occurring?

☒ Ground water
☒ Surface water
☒ Air
☒ Soils

6. Are contaminant releases migrating off-site?

☐ Yes; Indicate media, contaminant concentrations, and level of certainty.

Groundwater:

Surface water:

Air:

Soils:

☐ No
☒ Uncertain

- 7a. Are humans currently being exposed to contaminants released from the facility?

☐ Yes (Go to 8a)
☐ No
☒ Uncertain

Additional explanatory notes:

It is not known if contaminants are migrating off site.

- 7b. Is there a potential for human exposure to the contaminants released from the facility over the next 5 to 10 years?

☒ Yes
☐ No
☐ Uncertain

Additional explanatory notes:

There are about 35 private wells within 2.5 miles of the facility.

- 8a. Are environmental receptors currently being exposed to contaminants released from the facility?

☐ Yes (Go to 9)
☐ No
☒ Uncertain

Additional explanatory notes:

It is not known if contaminants are migrating off site.

- 8b. Is there a potential that environmental receptors could be exposed to the contaminants released from the facility over the next 5 to 10 years?

☒ Yes
☐ No
☐ Uncertain

Additional explanatory notes:

There are about 35 private wells within 2.5 miles of the facility.

Anticipated Final Corrective Measures

9. If already identified or planned, would final corrective measures be able to be implemented in time to adequately address any existing or short-term threat to human health and the environment?

☐ Yes
☒ No
☐ Uncertain

Additional explanatory notes:

A ground-water recovery system is operating in one area of the facility but there may be other areas also in need of remediation.

10. Could a stabilization initiative at this facility reduce the present or near-term (e.g., less than two years) risks to human health and the environment?

☐ Yes
☐ No
☒ Uncertain

Additional explanatory notes:

Further information on the effectiveness of current remediation and the nature and extent of remaining contamination is needed.

11. If a stabilization activity were not begun, would the threat to human health and the environment significantly increase before final corrective measures could be implemented?

☐ Yes
☐ No
☒ Uncertain

Additional explanatory notes:

Further information on the effectiveness of current remediation and the nature and extent of remaining contamination is needed.

Technical Ability to Implement Stabilization Activities

12. In what phase does the contaminant exist under ambient site conditions? Check all that apply.

☒ Solid
☒ Light non-aqueous phase liquids (LNAPLs)
☐ Dense non-aqueous phase liquids (DNAPLs)
☒ Dissolved in ground water or surface water
☐ Gaseous
☐ Other _____

13. Which of the following major chemical groupings are of concern at the facility?

☒ Volatile organic compounds (VOCs) and/or semi-volatiles
☐ Polynuclear aromatics (PAHs)
☐ Pesticides
☐ Polychlorinated biphenyls (PCBs) and/or dioxins
☐ Other organics
☒ Inorganics and metals
☐ Explosives
☐ Other _____

14. Are appropriate stabilization technologies available to prevent the further spread of contamination, based on contaminant characteristics and the facility's environmental setting? [See Attachment A for a listing of potential stabilization technologies.]

☐ Yes; Indicate possible course of action.

☒ No; Indicate why stabilization technologies are not appropriate; then go to Question 18.

Further information on the effectiveness of current remediation and the nature and extent of remaining contamination is needed.

15. Has the RFI, or another environmental investigation, provided the site characterization and waste release data needed to design and implement a stabilization activity?

☐ Yes
☐ No

If No, can these data be obtained faster than the data needed to implement the final corrective measures?

☐ Yes
☐ No

Timing and Other Procedural Issues Associated with Stabilization

16. Can stabilization activities be implemented more quickly than the final corrective measures?

☐ Yes
☐ No
☐ Uncertain

Additional explanatory notes:

17. Can stabilization activities be incorporated into the final corrective measures at some point in the future?

☐ Yes
☐ No
☐ Uncertain

Additional explanatory notes:

18. Is this facility an appropriate candidate for stabilization activities?

- () Yes
() No, not feasible
() No, not required
(X) Further investigation necessary

Explain final decision, using additional sheets if necessary.

The facility has had documented releases to soil, ground water and surface water. Sources of contamination include four former ponds used to hold process wastes prior to 1973, a leaking carbontetrachloride tank which was replaced in 1979 and a burial site for approximately 11,000 discarded aerosol cans with urethane foam and a UIC Class I injection well.

No further stabilization can be selected at this time.



ecology and environment, inc.

223 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60606, TEL. 312-663-9415

International Specialists in the Environmental Sciences

Date: June 15, 1983

To: File/USEPA Region V

From: Tom Koch

Subject: Preliminary Assessment
Illinois/ TDD #R05-8212-01A PAG #060
Danville/ Allied Corporation
ILD005463344

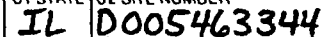
review

Primary information was gathered from the following sources:

- 1) USEPA ERRIS files, Region V, Chicago, Ill.
- 2) Ecology & Environment, Inc. HRS Files, Region V, Chicago

Presently, this site is being monitored closely by the Illinois Environmental Protection Agency personnel. A storage pond for liquid wastes has been drained and closed. Wastes which are generated at this chemical plant are either properly containerized and shipped to an approved landfill, or deep well injected into a permitted well.

23



☐ I. HIGHLY VOLATILE
☐ J. EXPLOSIVE
☐ K. REACTIVE
☐ L. INCOMPATIBLE
☐ M. NOT APPLICABLE

EPA FORM 2070-12 (7-81)



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

IL D005463344

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION

03 POPULATION POTENTIALLY AFFECTED: _____

02 ☒ OBSERVED (DATE: June 1979)

04 NARRATIVE DESCRIPTION

☒ POTENTIAL

☐ ALLEGED

CARBON TETRACHLORIDE found in ground water has been reported by Geraghty + Miller Inc.

01 ☒ B. SURFACE WATER CONTAMINATION

03 POPULATION POTENTIALLY AFFECTED: _____

02 ☐ OBSERVED (DATE: _____)

04 NARRATIVE DESCRIPTION

☒ POTENTIAL

☐ ALLEGED

Surface drainage channels could provide pathway for surface water contamination.

01 ☐ C. CONTAMINATION OF AIR

03 POPULATION POTENTIALLY AFFECTED: _____

02 ☐ OBSERVED (DATE: _____)

04 NARRATIVE DESCRIPTION

☐ POTENTIAL

☐ ALLEGED

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS

03 POPULATION POTENTIALLY AFFECTED: _____

02 ☐ OBSERVED (DATE: _____)

04 NARRATIVE DESCRIPTION

☐ POTENTIAL

☐ ALLEGED

01 ☐ E. DIRECT CONTACT

03 POPULATION POTENTIALLY AFFECTED: _____

02 ☐ OBSERVED (DATE: _____)

04 NARRATIVE DESCRIPTION

☐ POTENTIAL

☐ ALLEGED

01 ☐ F. CONTAMINATION OF SOIL

03 AREA POTENTIALLY AFFECTED: _____
(Acres)

02 ☐ OBSERVED (DATE: _____)

04 NARRATIVE DESCRIPTION

☐ POTENTIAL

☐ ALLEGED

01 ☒ G. DRINKING WATER CONTAMINATION

03 POPULATION POTENTIALLY AFFECTED: _____

02 ☐ OBSERVED (DATE: _____)

04 NARRATIVE DESCRIPTION

☒ POTENTIAL

☐ ALLEGED

01 ☒ H. WORKER EXPOSURE/INJURY

03 WORKERS POTENTIALLY AFFECTED: _____

02 ☐ OBSERVED (DATE: _____)

04 NARRATIVE DESCRIPTION

☒ POTENTIAL

☐ ALLEGED

Due to the nature of the chemicals produced worker exposure/injury is a potential hazard.

01 ☒ I. POPULATION EXPOSURE/INJURY

03 POPULATION POTENTIALLY AFFECTED: _____

02 ☐ OBSERVED (DATE: _____)

04 NARRATIVE DESCRIPTION

☐ POTENTIAL

☐ ALLEGED



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

IL D005463344

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

01 ☐ K. DAMAGE TO FAUNA
04 NARRATIVE DESCRIPTION (Include name(s) of species)

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

01 ☐ L. CONTAMINATION OF FOOD CHAIN
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES
(Spills/runoff/standing liquids/leaking drums)

02 ☒ OBSERVED (DATE: JUNE 1979)

☐ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION -

Contamination of groundwater on site by carbon tetrachloride implies unstable containment however, situation is being closely monitored by IEPA officials.

01 ☐ N. DAMAGE TO OFFSITE PROPERTY
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

NORLING PLANT - 10

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

LANDFILL, IMPOUNDMENT^{AND} DEEP WELL INJECTION are being monitored ^(CLOSED) by IEPA personnel.

V. SOURCES OF INFORMATION (Cite specific references, e. g., state files, sample analysis, reports)

USEPA ERRIS FILES - REGION II - CHICAGO

United States Environmental Protection Agency

Summary of Visual Site Inspection (VSI)

Tuesday April 25, 1989
Allied-Signal (UIC), Danville, Illinois
ILD 005 463 344

5/29/89

Don Phillips - Plant Manager, Allied
Donn Hirschmann - Allied-NJ
Greg Barrett - Allied
Tim Zimmer - Allied
Robert Fuhrer - U.S. EPA

Questions & Answers

Allied gave a brief presentation about the facility, then some questions were asked about the Allied site to clarify the Administrative File. We then walked around the entire site and concluded the visit with a discussion about the facility.

The facility began operations in October of 1955 making "GENETRON" which is the same as "Freon" except that "Freon" is a DuPont trademark. The facility expanded in; 1969, 1973, and 1978. Allied-Danville employs between 72 to 85 people based on packaging demand. The laboratory on site performs QA/QC and Permit requirements. In the processing, a catalyst that is used is Antimony (Sb) Penta-fluoride. *Analysis*

The Actual products that are manufactured here are "GENETRON 12" (CCl_2F_2), "GENETRON 11" (CCl_3F), and muriatic acid. "GENETRON 12" is used in refrigeration, auto air conditioning, styrene foams, and food freezing. "GENETRON 11" is used for refrigeration, and for the production of urethane foams, styrene foams and solvents. Muriatic Acid is used in food processing and steel pickling.

Other products that are shipped from here include: "GENETRON" 22, 113, 114, 500, and 502.

In the "early" days the energy supply was from the residential supply, but in 1980 the Illinois Power Company connected Allied with a 69,000 volt power supply. In an event of a power loss, the old residential power supply would come on line automatically. One purpose of the electricity is to heat the injection lines to prevent freeze-up in the winter.

In the railcar loading/unloading area, 1 drip pan has been placed under a HCL tank car area with 4 more that are planned to be placed under the CCl_4 car area by the end of this summer. The benefit of these drip pans would be to prevent an accidental spill from the unloading area being discharged directly to the ground, instead it would be captured and possibly recovered.

Hydrogen-Fluoride comes to Allied from Mexico. This material is used because of the low Arsenic (As) content. The unit that processes low As came on-line the first of this year. This will hopefully reduce the hazardous nature

of the waste stream.

The As contaminated waste-water is neutralized. The As treatment involves precipitation from the effluent stream, ~~from UIC permit condition 30~~. When asked about the As-Sb sludge produced "semi-annually" Allied replied that this sludge is produced annually in October during the annual shutdown. The original placement was in Pond #1 from 1954 to 1955 along with $AlCl_3$ and AlF_3 . In 1956, because of insufficient capacity Pond #2 was built and used until 1963. In 1958 Pond #3 was built with a variety of names (residue and/or effluent pond). In the late 1960's Pond #1 was "closed". In 1980 Pond #3 was closed with a 1 foot clay cap. This pond had activated aluminum as fill. When asked about the "U Shaped Lagoon" Allied replied that they cannot place this reference. Pond #3 seems to be the most likely "U" shape lagoon because during its use, it took on a double arc shape. Pond #4 was used for temporary storage in 1972 and 1973 and had a overlapping polyethylene (PE) liner. The depth of these ponds are estimated to be from 5 to 10 feet deep. The sump area was concrete lined, but in 1987, the Acid brick was removed and welded PE was placed.

Allied stated that, no hazardous waste residues were found when the drum storage pad was inspected as required by the UIC permit.

In October of 1972, the original injection began. Because of the troubles experienced in the Mt. Simon formation injection began into the Eminence-Potosi formations in November of 1973.

In 1979, a leak in the Carbon Tetra-Chloride (CCl_4) tank was discovered. When the tank was removed a large hole was discovered and the CCl_4 leaked through the asphalt base into the groundwater. The reason this hole developed was due to possible galvanic action. When asked why the recovery wells go down only 19 feet while the unconsolidated material goes down 90 feet, Allied responded that there is a hard till layer 20 feet down with sand lenses that trap the CCl_4 and that there is a report that explains this situation. When asked for a value or estimate on how many gallons of CCl_4 were released, Allied responded by saying they did not know. They did admit that after the Geraghty and Miller report showing groundwater contamination that they could tell that the CCl_4 product tank was at a lower volume then it was thought. Currently 3 recovery wells are pumped 2 to 3 times a week. As of todays date a total of 11,000 gallons of CCl_4 have been recovered. Approximately 8000 gallons were deep-well injected before 1984, and the rest was sent off site or is in less than 90 day storage in their hazardous waste storage area. In 1984 there was a drop off of CCl_4 recovery, so the number of recovery wells being used was reduced from 6 to 3.

Allied stated that the Pollution Control Board complaints and appeals were dropped about 2 months ago, and concluded that this facility does not need a RCRA permit. When asked about EP toxic paint sludge, Allied said about a year and a half ago they switched to using non-lead based paint. Before 1984 some of this waste was intermittently injected into the deepwell from 55 gallon drums. When asked about milky discharges, bird kills, and crop damage from the facility, Allied responded saying this occurred in the late 1950's.



SABRINA

Sample
Area
Temp
3
4

When asked about the facilities potable water, Allied said it comes from the city which gets their water from Lake Vermillion.

I asked for copies of latest EP toxicity results on the waste stream.

Allied presented the Agency with a current map of the facility showing the locations and extent of the SWMU's. The "U-Foam" burial site is also shown in the north-west portion of the site.

Tour

While walking through the facility, photographs were taken both by the Agency (attached) and Allied. We walked over the areas that were effluent Ponds # 1, 2, 3, and 4. Effluent pond 4 was grassed over and at the same grade as the facility. Effluent Pond 2 had on one side grass and the other side gravel with heavy equipment and the new CCl_4 tank over it. Effluent pond 1 was entirely covered with gravel with some empty tanks and other equipment stored on top of it. Pond 3 was basically a mound that was closed under IEPA supervision. We then walked over to the deep injection well, where you could see the above-ground line going to the pre-injection shed where filtering, pH monitoring and various alarms were housed. We then went to the drum storage building which looked clean, but we smelled an odor which Mr. Philips investigated. This odor was Alpha-methyl-styrene (A-M-S) and was coming to the sump area because they were washing 3 empty drums.

We then walked through the product tank area, and viewed the CCl_4 recovery wells, drip pan for the train unloading area and the waste water treatment tanks. Tanks 92 and 93 are the new neutralization tanks that began operation on a continuous basis in January of 1988. Tanks 90 and 91 are As bearing process waste tanks that are neutralized on a batch basis. When one of the tanks is 60% full then a neutralization process is performed. Tanks 33 (steel, rubber lined) and 34 (fiberglass, rubber lined), both with a 20,000 gallons capacity, contain process wastewaters that Allied calls non-hazardous.

We then toured the "GENETRON" plant, laboratory, packaging building, and packaging warehouse. A chlorine tank area was noticed ^{which} ~~this~~ is used to feed the reactor in the making of the product to keep the Sb in the 5⁺ state.

Conclusion *Wrap up, end,*

After looking around the facility we went back in to discuss the facility status. I said I would find out how this (Rider) permit would affect their current voluntary cleanup of the groundwater by contacting Steve Gobelman. Also, we figured that the life of this ^{Rider} ~~permit~~ is the same as the life of the UIC permit, which is from 1988 to 1991.

A sampling visit will be planned to complete the RFA.

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: ILD 005 463 344
SUBJECT: Allied-Signal VIC
LOCATION: Looking West at Effluent Pond #7
with Hurshy Phillips & Tim Zimmer in photo
CITY: Danville COUNTY: Vermillion STATE: IL
DATE: 4/25/89 TIME: 11:30
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): Robert A. Fisher
WITNESS: Don Phillips, etc
CAMERA: _____
FILM TYPE: ASA T11 f
NEGATIVE LOCATION: in File FILE #: _____
PROCESSED BY: EPA
PHOTO #: 4 of 18

Temporary storage of empty tanks,
"gravel cap"



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: ILD 005 463 344
SUBJECT: Allied-Signal (VIC)-Danville
LOCATION: Outside Facility, looking West at train yard, in far North portion of the site
CITY: Danville COUNTY: Vermillion STATE: IL
DATE: 4/25/89 TIME: 11:30 A
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): Robert A. Fisher
WITNESS: Don Phillips
CAMERA: _____
FILM TYPE: ASA T11 f
NEGATIVE LOCATION: in File FILE #: _____
PROCESSED BY: EPA
PHOTO #: 1 of 18



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: _____
SUBJECT: Allied-Signal
LOCATION: Looking East from capped Residue Pond #3
(MW and train yard in background)
CITY: _____ COUNTY: _____ STATE: _____
DATE: _____ TIME: _____
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): _____
WITNESS: _____
CAMERA: _____
FILM TYPE: ASA T11 f
NEGATIVE LOCATION: _____ FILE #: _____
PROCESSED BY: _____
PHOTO #: 5 of 18



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: _____
SUBJECT: Allied-Signal
LOCATION: Looking East at Effluent Pond #4
CITY: _____ COUNTY: _____ STATE: _____
DATE: _____ TIME: _____
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): _____
WITNESS: Don Phillips
CAMERA: _____
FILM TYPE: ASA T11 f
NEGATIVE LOCATION: _____ FILE #: _____
PROCESSED BY: _____
PHOTO #: 2 of 18



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: _____
SUBJECT: Allied-Signal
LOCATION: Looking South East at Capped Residue Pond #3, with MW in foreground
CITY: _____ COUNTY: _____ STATE: _____
DATE: _____ TIME: _____
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): _____
WITNESS: _____
CAMERA: _____
FILM TYPE: ASA T11 f
NEGATIVE LOCATION: _____ FILE #: _____
PROCESSED BY: _____
PHOTO #: 6 of 18



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: _____
SUBJECT: Allied-Signal
LOCATION: Looking South West at New CCL tank and effluent pond #2
CITY: _____ COUNTY: _____ STATE: _____
DATE: _____ TIME: _____
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): _____
WITNESS: _____
CAMERA: _____
FILM TYPE: ASA T11 f
NEGATIVE LOCATION: _____ FILE #: _____
PROCESSED BY: _____
PHOTO #: 3 of 18



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: ILD 005 463 344
SUBJECT: Allied-Signal UIC
LOCATION: Close up of drums in (less than 90 days)
Hazardous Waste Storage - looking South
CITY: Danville COUNTY: Vermillion STATE: IL
DATE: 4/25/89 TIME: 11:30
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig): Paul J. Johnson
WITNESS: Don Phillips
CAMERA: _____
FILM TYPE: ASA T11 F
NEGATIVE LOCATION: File FILE #: _____
PROCESSED BY: EPA
PHOTO #: 10 of 18

The Drum on the Right Contains Recovered CCL₄
The Drum on the Left Contains Drill Cuttings
Soil Matrix CCL₄



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: ILD 005 463 344
SUBJECT: Allied-Signal UIC
LOCATION: Looking SOUTH along East side of
Residue Road #3
CITY: Danville COUNTY: Vermillion STATE: IL
DATE: 4/25/89 TIME: 11:30
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig): Paul J. Johnson
WITNESS: Don Phillips
CAMERA: _____
FILM TYPE: ASA T11 F
NEGATIVE LOCATION: File FILE #: _____
PROCESSED BY: EPA
PHOTO #: 7 of 18

Runoff, sometimes used as a road.



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: _____
SUBJECT: Allied-Signal
LOCATION: Looking West at Drum Storage Bldg (Shed)
with Don Herschman
CITY: _____ COUNTY: _____ STATE: _____
DATE: _____ TIME: _____
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig): _____
WITNESS: _____
CAMERA: _____
FILM TYPE: ASA T11 F
NEGATIVE LOCATION: _____ FILE #: _____
PROCESSED BY: _____
PHOTO #: 11 of 18



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: _____
SUBJECT: Allied-Signal
LOCATION: Looking SOUTHEAST at Residue Road #3
and injection line that goes to deepwells
CITY: _____ COUNTY: _____ STATE: _____
DATE: _____ TIME: _____
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig): _____
WITNESS: _____
CAMERA: _____
FILM TYPE: ASA T11 F
NEGATIVE LOCATION: _____ FILE #: _____
PROCESSED BY: _____
PHOTO #: 8 of 18



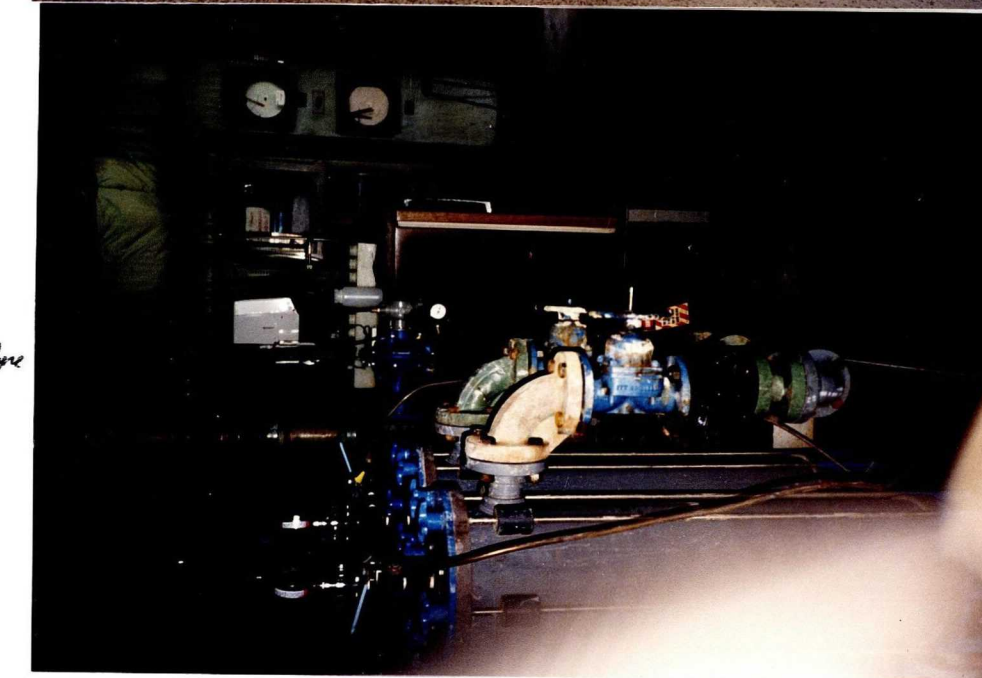
OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: _____
SUBJECT: Allied-Signal
LOCATION: Looking South at Sumps for site
with Hazardous Waste Storage Shed behind sumps
CITY: _____ COUNTY: _____ STATE: _____
DATE: _____ TIME: _____
WEATH: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig): _____
WITNESS: _____
CAMERA: _____
FILM TYPE: ASA T11 F
NEGATIVE LOCATION: _____ FILE #: _____
PROCESSED BY: _____
PHOTO #: 12 of 18



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: _____
SUBJECT: Allied-Signal
LOCATION: Inside pre injection shed, looking
South, Filtering & pH monitoring, Alarms
CITY: _____ COUNTY: _____ STATE: _____
DATE: _____ TIME: _____
WEATH: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig): _____
WITNESS: _____
CAMERA: _____
FILM TYPE: ASA T11 F
NEGATIVE LOCATION: _____ FILE #: _____
PROCESSED BY: _____
PHOTO #: 9 of 18



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: ILD 005 463 344
SUBJECT: Allied-Signal VIC
LOCATION: Drip Pan for Acid Unloading Area
Looking North East at Tank CAR
CITY: Danville COUNTY: Vermillion STATE: IL
DATE: _____ TIME: _____
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): Robert Fisher
WITNESS: Don Philips
CAMERA: _____
FILM TYPE: _____ ASA _____ T.1/ _____ f. _____
NEGATIVE LOCATION: File FILE #: _____
PROCESSED BY: EPA
PHOTO #: 16 of 18
GPO 838-588



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

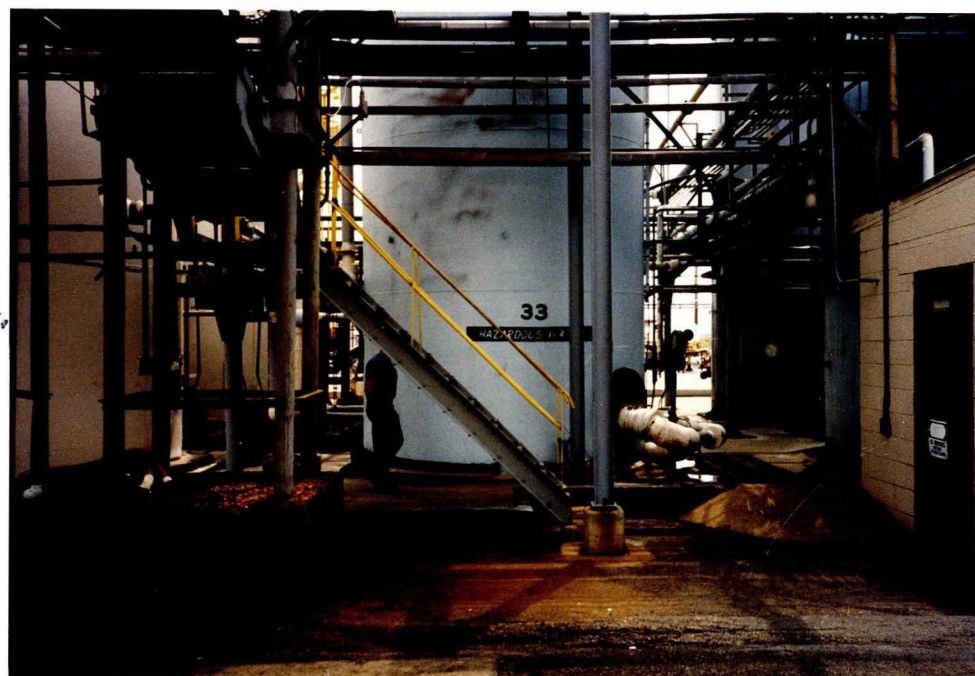
PROJECT/CASE NO: ILD 005 463 344
SUBJECT: Allied-Signal VIC
LOCATION: Looking NORTH at HCL TANK #17
product tank.
CITY: Danville COUNTY: Vermillion STATE: IL
DATE: 4/25/89 TIME: 11:30
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): Robert Fisher
WITNESS: Don Philips
CAMERA: _____
FILM TYPE: _____ ASA _____ T.1/ _____ f. _____
NEGATIVE LOCATION: File FILE #: _____
PROCESSED BY: EPA
PHOTO #: 13 of 18
GPO 838-588

Two green sheds are CCl₄ recovery
well sheds #2 & #5
Tank #34 on the right also is a HCL tank.



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: _____
SUBJECT: Allied-Signal
LOCATION: Looking South at "Steel" tank #33
this is HCL waste water and not supposed to be.
CITY: _____ COUNTY: _____ STATE: _____
DATE: _____ TIME: _____
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): _____
WITNESS: _____
CAMERA: _____
FILM TYPE: _____ ASA _____ T.1/ _____ f. _____
NEGATIVE LOCATION: _____ FILE #: _____
PROCESSED BY: _____
PHOTO #: 17 of 18
GPO 838-588



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: _____
SUBJECT: Allied-Danville
LOCATION: Looking East at waste water tank
#40 which is used as a reserve tank.
CITY: _____ COUNTY: _____ STATE: _____
DATE: _____ TIME: _____
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): _____
WITNESS: _____
CAMERA: _____
FILM TYPE: _____ ASA _____ T.1/ _____ f. _____
NEGATIVE LOCATION: _____ FILE #: _____
PROCESSED BY: _____
PHOTO #: 14 of 18
GPO 838-588

Tank #40 can hold up to 400,000 gallons of wastewater
or up to a 2-3 hour rain event.
IN The Center are New Neutralization tanks.



This waste is hazardous because of the As content.
These tanks are filled 60% then neutralized.

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: _____
SUBJECT: Allied-Signal
LOCATION: Looking North at Hazardous
tank 90 & 91
CITY: _____ COUNTY: _____ STATE: _____
DATE: _____ TIME: _____
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): _____
WITNESS: _____
CAMERA: _____
FILM TYPE: _____ ASA _____ T.1/ _____ f. _____
NEGATIVE LOCATION: _____ FILE #: _____
PROCESSED BY: _____
PHOTO #: 18 of 18
GPO 838-588



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: _____
SUBJECT: Allied-Danville
LOCATION: Looking North at Recovery Well
#5 which may be pumped 2-3 times a week.
CITY: _____ COUNTY: _____ STATE: _____
DATE: _____ TIME: _____
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): _____
WITNESS: _____
CAMERA: _____
FILM TYPE: _____ ASA _____ T.1/ _____ f. _____
NEGATIVE LOCATION: _____ FILE #: _____
PROCESSED BY: _____
PHOTO #: 15 of 18
GPO 838-588





Planning Research Corporation

PRC Environmental Management, Inc.

303 East Wacker Drive
Suite 500
Chicago, IL 60601
312-856-8700
FAX# 938-0113

RECEIVED
JAN 31 1990

**RCRA PERMITTING BRANCH
OR/WMD
EPA, REGION V**

**SAMPLING VISIT TRIP REPORT
FOR SAMPLING AT THE
ALLIED-SIGNAL CORPORATION
DANVILLE, ILLINOIS
FINAL TRIP REPORT**

Prepared for

**U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, D.C. 20460**

Work Assignment No.	:	R05018
EPA Region	:	5
Site Number	:	ILD 005 463 344
Date Prepared	:	January 25, 1990
Contract Number	:	68-W9-0006
Prepared by	:	Versar, Inc.
Contractor Project Manager	:	Ed Kriz
Telephone Number	:	312/990-7555
EPA Work Assignment Manager	:	Bob Fuhrer
Telephone Number	:	312/353-4889

65A

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FIGURES, TABLES, AND APPENDICES

Figure 1 - Solid Waste Management Units and Sampling Locations
Allied Signal, Danville, Illinois

Table 1 - Solid Waste Management Units at Allied-Signal, Danville
Illinois

Table 2 - Sample Location Notes, Allied-Signal, Danville, Illinois

Table 3 - Sampling Information

Appendix A - Sample Photo Log

Appendix B - General Photo Log

Appendix C - Chain-of-Custody, Traffic Reports, and Packing List forms

Appendix D - Field Notes

1.0 INTRODUCTION

Versar, Inc. under subcontract with PRC Environmental Management, Inc. (PRC) received a work assignment (No. R05018) from U.S. EPA Region V (TES Contract No. 68-W9-006) to perform a sampling visit as part of a RCRA facility assessment (RFA) at the Allied-Signal Corporation in Danville, Illinois on November 6-7, 1989. The RFA for the Allied-Signal site included: (1) a Preliminary Review (PR) of all available files; (2) a Visual Site Inspection (VSI) on April 25, 1989; and (3) a Sampling Visit (SV) on November 6-7, 1989. As part of this work assignment, a Sampling Visit Work Plan, Quality Assurance Project Plan (QAPP) and a site-specific health and safety plan were prepared and approved prior to the SV.

The object of the facility SV is to identify releases of hazardous waste or hazardous constituents from Solid Waste Management Units (SWMUs) or other areas of concern, through the collection of environmental samples. As a result of the PR and VSI, the U.S. EPA identified nine ^{areas} ~~SWMUs~~ where current or past waste handling or disposal activities indicated possible releases to the environment. These ^{areas} ~~units~~ are listed in Table 1 and shown in Figure 1. The selection of sampling locations and analytical parameters was based on the sampling plan for the Allied-Signal site developed by the U.S. EPA Work Assignment Manager dated August, 1989.

The sampling team from Versar consisted of Mr. John Angstmann, Environmental Engineer, and Mr. Jeff Rebenschied, Environmental Specialist. Personnel present during the SV were as follows:

U.S. EPA Region V

Mr. Robert Fuhrer

Versar, Inc.

Mr. John Angstmann, Environmental Engineer

Mr. Jeff Rebenschied, Environmental Specialist

TABLE 1

Solid Waste Management Units
At Allied-Signal
Danville, Illinois

UNIT IDENTIFIER ¹	UNIT NAME
1	Inactive Pond #1
2	Inactive Pond #2
3	Closed Pond #3 ²
4	Inactive Pond #4
5	Overhead Injection Line
6	Hazardous Waste Drum Storage Area and Site Drainage Collection Point
7	Main Carbon Tetrachloride Recovery Well Area/General Production Spill Area
8	Drainage Ditch Downstream of Deep Well Injection Facility/Drainage Ditch for Facility Before Secondary Containment System Installed
9	Urethane Foam Burial Site

¹Numbers correspond to units on facility map (Figure 1)

²Pond #3 was closed in 1980 under the direction of IEPA

**Solid Waste Management Units and Sampling Locations Allied – Signal, Danville, Illinois
(Modified after Allied – Signal, April 24, 1989)**

Allied Signal

Mr. Don Phillips, Plant Manager
B.C. Darji, Environmental Supervisor
Jim Wright, Process Engineer
Mr. Don Hirshmann, Manager of Pollution Control
Mr. Robert Adams, Chemical Technician

1.1 Background

The Allied Chemical Corp. has been operating since 1955 and has practiced deepwell injection under the Underground Injection Control (UIC) program at their plant site in Danville, Illinois since 1973. The plant manufactures ~~"freons"~~ {refrigerants} by the chemical reaction between CCl_4 and HF acid which are listed as hazardous waste (U211 & U134). The process waste consists principally of HCl acid and unreacted HF acid. In 1979 waste was discovered seeping out of Allied's residue pond (surface impoundment). Also in 1979, a leak in the CCl_4 tank and a plume of CCl_4 in groundwater were discovered. Presently, 11,000 gallons of CCl_4 have been recovered since 1979. There are four inactive waste disposal ponds on the site. Ponds 1, 2, & 4 were covered with soil and gravel; at some later date tanks were constructed over pond #2. Pond #3 was closed under the direction of the Illinois Environmental Protection Agency (IEPA) in 1980.

Allied-Signal Corporation
Danville, Illinois

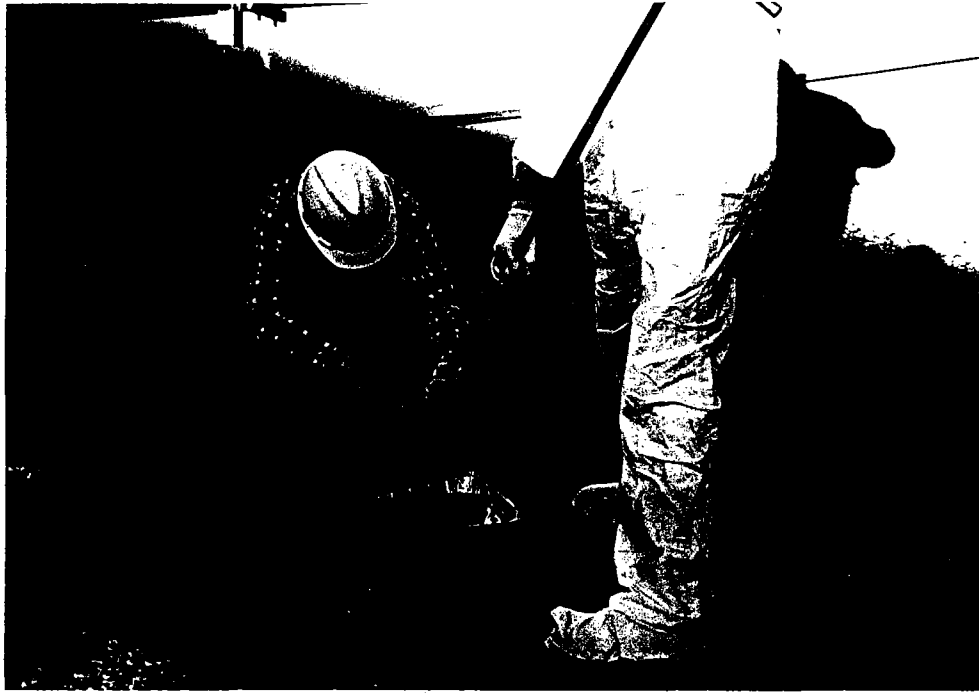


Photo No.: 3

Location: A SWMU 7

Comments: Sample #5. Versar personnel removing soil from stainless steel auger.



Photo No.: 4

Location: Southwest of SWMU 4

Comments: Sample #8. General photo facing northeast; sampling personnel in background.

Allied-Signal Corporation
Danville, Illinois



Photo No.: 5

Location: Southwest of SWMU 4

Comments: Sample #8. Versar sampling personnel filling sampling jars with Allied-Signal personnel observing (right). Versar personnel decontaminating stainless steel auger (background).



Photo No.: 6

Location: A SWMU 8

Comments: Sample #11. Versar sampling personnel obtaining soil sample (foreground). HNu photoionization detector nearby. Allied-Signal representative observing (background).

APPENDIX C
Chain-of-Custody, Traffic Reports,
and Packing List Forms

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 6
230 South Dearborn Street
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.		PROJECT NAME				NO. OF CON- TAINERS	ANALYSIS							REMARKS	
SAMPLERS: (Signature) <i>John K. Kingston</i> <i>Jeffrey E. Reberschneid</i>							VOC's	Total Metals	pH	Acidity	Chloride	Fluoride	Sulfate		
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION										
1	11/6/89	0930	X		Background NE of Plant	4	X	X	X	X	X	X			
2	11/6/89	1030	X		Background SW of Plant	4	X	X	X	X	X	X			
3	11/6/89	1200	X		SWMU 1 - East	4									
4	11/6/89	1245	X		SWMU 1 - West	4									
5	11/6/89	1500	X		SWMU 2	4									
6	11/6/89	1600	X		SWMU 3 - northeast	4									
7	11/6/89	1700	X		SWMU 3 - southwest	4									
8	11/7/89	0900	X		SWMU 4 (south)	4									
9	11/7/89	0930	X		SWMU 4 Northeast corner	4									
10	11/7/89	1030	X		SWMU 6 central east	4									
11	11/7/89	1130	X		SWMU 8 south	4									
12	11/7/89	1230	X		SWMU 9 northeast	4									
13	11/6/89	1230	X		SWMU 9 northeast	4	↓	↓	↓	↓	↓	↓	Duplicate		
Relinquished by: (Signature) <i>John K. Kingston</i>						Date / Time	Received by: (Signature)						Date / Time	Received by: (Signature)	
Relinquished by: (Signature)						Date / Time	Received by: (Signature)						Date / Time	Received by: (Signature)	
Relinquished by: (Signature)						Date / Time	Received for Laboratory by: (Signature)						Date / Time	Remarks	

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

Organic Traffic Report

(For CLP Use Only)

Case Number

13099

SAS No. (if applicable)

506 4/f

[illegible]

FD-36 (Rev. 5-22-64)

U.S. ENVIRONMENTAL PROTECTION AGENCY
CLP Sample Management Office
P.O. Box 818 - Alexandria, Virginia 22313
Phone: 703/557-2490 - FTS/557-2490

SAS Number
5064E

SPECIAL ANALYTICAL SERVICE
PACKING LIST

Sampling Office: <u>Region II</u>	Sampling Date(s): <u>11/6 and 7/89</u>	Ship To: ^{Attn: Tony Neski} <u>Versar, Inc.</u> <u>6850 Versar Center</u> <u>Springfield, VA</u> <u>22151</u>	For Lab Use Only
Sampling Contact: <u>Bob Fuhrey</u> (name)	Date Shipped: <u>11/7/89</u>	Federal Express #464353013 Attn: Tony Neski	Date Samples Rec'd:
<u>312/353-4889</u> (phone)	Site Name/Code: <u>Allied-Signal</u>		Received By:

Sample Numbers	Sample Description i.e., Analysis, Matrix, Concentration	Sample Condition on Receipt at Lab
1. <u>5064E-01</u>	<u>Low conc. soil-pH, acidity, chloride, fluoride, sulfate</u>	
2. <u>5064E-02</u>		
3. <u>5064E-03</u>		
4. <u>5064E-04</u>		
5. <u>5064E-05</u>		
6. <u>5064E-06</u>		
7. <u>5064E-07</u>		
8. <u>5064E-08</u>		
9. <u>5064E-09</u>		
10. <u>5064E-10</u>		
11. <u>5064E-11</u>		
12. <u>5064E-12</u>		
13. <u>5064E-13</u>		
14. _____		
15. _____		
16. _____		
17. _____		
18. _____		
19. _____		
20. _____		

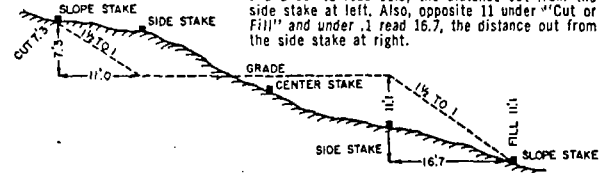
For Lab Use Only

White - SMO Copy, Yellow - Region Copy, Pink - Lab Copy for return to SMO, Gold - Lab Copy

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

Roadway of any Width. Side Slopes 1 1/2 to 1.

In the figure below: opposite 7 under "Cut or Fill" and under .3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .1 read 16.7, the distance out from the side stake at right.



Cut or Fill	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	Cut or Fill
	Distance out from Side or Shoulder Stake										
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
24	36.0	36.2	36.3	36.5	36.6	36.8	36.9	37.1	37.2	37.4	24
25	37.5	37.7	37.8	38.0	38.1	38.3	38.4	38.6	38.7	38.9	25
26	39.0	39.2	39.3	39.5	39.6	39.8	39.9	40.1	40.2	40.4	26
27	40.5	40.7	40.8	41.0	41.1	41.3	41.4	41.6	41.7	41.9	27
28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

KEUFFEL & ESSER CO.

For Curve Tables see end of book.

Allied-Signal, Danville:
 - Don Phillips, Plant Mng'r
 - Don Hirschman, Mng'r. Poll. Control.
 - B.C. Darji, Environ. Supervisor
 Bob Fuhrer, EPA contact (Region II)
 Jim Wright, Process Engr.,
 Allied-Signal, Danville
 Robert Adams, LAB

Federal Express

TECH.

P.O. @ guard shack

1050-4700-2

Conf. # CMIA 10
 CM 47
 800-238-5355

Loren } Region II SMD
 Emmanuel }



The paper in this book is made of 50% high grade rag stock with a WATER RESISTING surface sizing.

KEUFFEL & ESSER CO.

11/6/89 JA

0815 meeting w/ plant personnel

- discussed sampling equipment
- general introductions
- provided 3 copies of sampling plan
- comment made that Cl, FI, SO₂ only used as indicator of haz. substances.

0830 - Toured facility to look at sampling locations

- all seem to be easily accessed and able to be sampled using the hand auger

0910 Staging equipment in the van and decontaminating sampling scoops

11/6/89 JH

4
0930 Collected sample from
Background 1
- approx 10' into
woods
RIP 12 facing N
RIP 13 facing S

sample collected
using spades @
depth of 4-6 inches

1000 Setting up @ Background 2

1030 Collected sample
from Background 2
between railroad
tracks (abandoned)
and leased farm field

Sample collected from
6" to 1'-3" deep
using a hand auger

RIP 14 augered hole
RIP 15 Facing northeast
11/6/89 JH

5
1100 Decanned auger
and went for ice

1130 used power auger
to go through
layer of rock (1' deep)

1145 used decanned ~~to~~ hand
auger hit clay @ 1'-9"
changed bit to
clay auger

1200 collected sample 3
total depth of hole
2 1/2 feet

HNA reading background
in hole band
of sample

power auger was
shut off when before
sample was collected

brown clay w/ dark black and
rust color mottling 11/6/89 JH

6
1215 deconning equipment

RIP16 sample location
facing west.

1245 Collected Sample 4
using power auger
to advance the hole
2 feet - then hand
auger was used
to advance the hole
to 2 1/2 feet deep

dry lt. brown clay

clay was looser and
less compacted
than sample #3

RIP17 sample location
facing west.

Note: tan soil collected for SAS split

1315 deconning equipment

11/6/89 JFA

7
1330 lunch
called office
tried to track down
Federal Express

According to Judy Klieman,
USEPA CLP Coordinator,
we can ship out all the
soil samples at one time.

1449 Back on site
Staging equipment at
sample #15.

1500 Collected Sample #5
Advanced hole 2 feet
deep using power auger
collected sample from
2 1/2 - 3 feet deep using
hand auger

H/M in hole + sample road
background.

RIP18, picture taken by
R. Fuhrer of us sampling.
11/6/89 JFA

RIP 19 the location
of sample

tan to lt. brown clay
soil - slightly loose

1530 Decon equip and load up
to move to Sample #6

1600 Collected Sample #6

Used hand held auger
w/ clay bit.

The clay seemed differ-
ent than other clay
encountered at the site.

The sample was taken
from 2'-1" - 3'-7", water
was encountered at
about 3'

The clay was very homo-
genous and may have
been the same used

11/6/89 JH

to cap the impoundment
(SWM 113)

HNu in hole and sample
read background

1630, Deconning equipment
and load up to
move to sample #7

RIP 20 sample location facing south.

1700 Collected Sample #7

Used power auger to
advance 2'-4" used
hand auger to go 6"

hole filled with water
before using hand auger

clay similar to sample 6
very wet

HNu in hole and sample read
background 11/6/89 JH

NO picture taken
since too dark

1730 Decunning
equipment and
load van

signed out at gate
house and left
the site

Summary:

Collected 7 samples

Power auger is used
when gravel is present

Sample is collected using
hand auger

~~John T. Anger~~ 11/6/89

11/7/89 11
Arrived on site at 8:00 AM
signed in
called office
- Rick will arrange for
Fed Ex pickup for 4 PM.
- will give me acct. # when
I call back

RIP21 sample location

John T. Anger 11/7/89
0900 Collect sample #8 using
power auger south of SWMU 4
John operating unit & decor
Jeff taking samples
Depth of sample 2'6" used clay auger
no indications of organics by HNU
HNU at background

0915 EPA Rep arrived on site

- B.C. of Allied
Don of Allied

picture taken RIP23

Jeffrey E. Peterson 11/7/89

12

0920 use hand held auger

0930 Sample 9 collected

Homogeneous lt. brown
clay - semi compacted.

HNU possibly needs
to be calibrated

Final Depth of hole 3'-2"

R1P24 sample location
facing east.

R1P25 across SWMU 4
Facing northeast

John St. Anger 11/7/89

1030 sample 10 collected

Charcoal sandy-gravel nonhomogeneous
noncompacted, very wet
mudlike material.

3'-8" depth of hole

R2P1 facing N South of

HCI tank Jeffery E. Knapovich
11/7/89

13

1130 Sample 11 collected

homogeneous tan clay
2-3 feet deep

background in HNU for
sample and hole.

R2P2 taken by Bob Fuhrer

R2P3 sample location -
facing east.

→ 1230 sample 12 collected

~~near John St. Anger~~ 11/7/89
tan homogeneous clay
3-4 feet deep

background for HNU near for
sample and hole

R2P4 facing E sample location

R2P5 facing S. sample location

2.0 SITE CONDITIONS

The U.S. EPA identified ten sampling locations to ~~confirm or refute~~ ^{access} the possible release of hazardous waste or hazardous constituents from the SWMUs to the environment. Two background sample locations and one field duplicate were also identified by the U.S. EPA. Versar collected soil samples at locations specified by the U.S. EPA WAM in the field.

2.1 Weather Conditions

On November 6, 1989 the weather conditions were partly sunny, with the temperature in the high 50's to low 60's °F. On November 7, 1989 the weather conditions consisted of scattered showers in the early morning and partly cloudy in the afternoon with the temperature in the high 40's to the low 50's °F. These weather conditions did not impact sample quality or representativeness.

2.2 Facility Conditions

Facility personnel were cooperative during the SV. Exact procedures to be undertaken by U.S. EPA and Versar were explained during a brief on-site meeting. All required logistical and general site accessibility information was obtained from the site representatives present. A walkthrough was performed with U.S. EPA and plant personnel to determine sample location accessibility.

2.3 Accessibility of the Sampling Visit

All sample collection areas were easily accessible. Table 2 outlines sampling accessibility and Figure 1 shows sample locations. Photographs of each sampling location are provided in Appendix A.

2.4 Potential / Actual Health and Safety Concerns

No obvious health or safety concerns were visually identified during the site walk-through and sample collection. The sample collection team wore proper protective clothing (ie., tyvek coveralls, nitrile

TABLE 2
Sample Location Notes
Allied-Signal Danville, Illinois

<u>SAMPLE</u>	<u>SAMPLE LOCATION ACCESSIBILITY AND CONDITIONS</u>
1.	Wooded area, moderate vegetation, restricted movement.
2.	Large open field, light vegetation, non-restricted movement.
3.	Open area, rocky, no vegetation, semi-restricted movement.
4.	Open and rocky area, no vegetation, semi-restricted movement.
5.	Open and rocky area, no vegetation, semi-restricted movement.
6.	Open area, light vegetation, non-restricted movement.
7.	Open and rocky area, no vegetation, non-restricted movement.
8.	Open and rocky area, no vegetation, non-restricted movement.
9.	Large open field, light vegetation, non-restricted movement.
10.	Open and rocky area, no vegetation, semi-restricted area.
11.	Marshy area, light vegetation, semi-restricted movement.
12.	Wooded area, moderate vegetation, restricted movement.

gloves, latex booties) depending on the conditions of the area being sampled and in accordance with the health and safety plan.

An HNu model 101, photoionization detector with a 10.2 eV probe was used to monitor for total organic vapors during the sampling event. This instrument was calibrated against a benzene equivalent standard before each days use. Initial background readings were <2.0 ppm. None of the field screening measurements taken with the photoionization detector in the breathing zone, from the soil samples, or from the boreholes, exceeded background levels of <2.0 ppm.

3.0 SUMMARY OF SAMPLING VISIT

3.1 General Information

The Versar sampling team arrived at the Allied-Signal facility on November 6, 1989 at 8:00 am. At 8:15 am a meeting was held between plant personnel, U.S. EPA, and Versar to discuss sampling procedure protocols. At 8:30 am, a general tour of the facility was given to determine the strategy for sampling procedures. Photographs of the facility, and sampling and monitoring equipment are shown in Appendix B.

3.2 Sample Collection Procedures

A total of 13 soil samples (12 investigative sample locations plus one duplicate) were collected at the Allied-Signal facility. Ten samples were collected in the vicinity of previously identified solid waste management units (SWMU), two samples were collected as background samples from a wooded area and open agricultural field in the vicinity of the plant, and one duplicate sample was collected for field and laboratory quality assurance/quality control. All samples were packaged and sent to be analyzed for Target Compound List (TCL) VOCs, Target Analyze List (TAL) metals, pH, acidity, chloride, fluoride, and sulfate. There was some indication that several CLP laboratories could not analyze the soil samples for pH and acidity. It is Versar's understanding that appropriate laboratories for these analyses were assigned. The sampling procedures are described below.

Subsurface soil samples were collected with a handheld stainless steel auger (Appendix B, photo 3). The handheld auger was decontaminated before each use as defined in Section 3.3. The auger was used to reach the desired sample depth. After the sample depth was reached, the auger was removed from the borehole and the contents emptied into an aluminum tray. In areas where the handheld auger was inoperable due to the soil conditions, a power auger with an 8" bit was used (Appendix A and B, photo 3). The 8" bit was also decontaminated before each use. The power auger was used to bore to a depth where a representative soil

sample could be obtained. Once this was completed the handheld stainless steel auger was used to collect the sample. Individual sample intervals for each sample are shown in Table 3. Nonrepresentative material such as glass fragments or large gravel pieces were removed before mixing.

Versar collected all soil samples by compositing several soil augerings from each boring. Samples to be analyzed for VOCs were also mixed in an attempt to provide representative sample splits to Allied-Signal. This sample collection method for VOCs altered slightly from the Sampling Visit Work Plan, however the samples are believed to be representative.

Upon completion of compositing, the samples were transferred directly into laboratory prepared containers. Table 3 includes the date, time, sample number, organic traffic report number, inorganic traffic number, SAS packing list number, location of sample taken, sample matrix, sample depth, method of collection and any comments concerning that sample.

3.3 Decontamination Procedures

All sampling equipment was thoroughly decontaminated before the first sampling and after each subsequent use. The following decontamination procedure was used:

- 1) Thoroughly wash with non phosphate detergent
- 2) Rinse with tap water
- 3) Rinse with deionized water
- 4) Rinse with 5-percent nitric acid
- 5) Rinse with deionized water
- 6) Wrap in aluminum or seal in plastic.

All rinse water was disposed on-site in the vicinity of each sample

TABLE 3
Sampling Information
Allied-Signal Danville, Illinois

Date	Time	Sample Number	Organic Traffic Number	Inorganic Traffic Number	SAS Packing List No.	Location	Matrix	Sample Depth	Method of Collection	Comments
11/06/89	0930	1	EFR 81	MEEZ 71	5064E-01	Northwest of Plant (background)	Soil	4"-6"	Hand scoop	Black top soil
11/06/89	1030	2	EFR 82	MEEZ 72	5064E-02	Southeast of Plant (background)	Soil	6"-15"	Hand auger	Black soil with some cinders
11/06/89	1200	3	EFR 83	MEEZ 73	5064E-03	SWMU1-east of roadway, north of railroad tracks	Soil	21"-30"	Power auger to 21" then hand auger	Gravel layer one foot deep. Sample was semi-compacted brown clay with black organic material and orange mottling.
11/06/89	1245	4	EFR 84	MEEZ 74	5064E-04	SWMU1-between railroad trucks and unit	Soil	24"-30"	Power auger to 24" then hand auger	Sample was semi-loose light brown clay. Due to insufficient sample volume, a separate aliquot of tan clay was collected for the SAS sample.
11/06/89	1500	5	EFR 85	MEEZ 75	5064E-05	SWMU2-between HCL tank and railroad	Soil	30"-36"	Power auger to 24" then hand auger	Sample was semi-loose tan to light brown clay.
11/06/89	1600	6	EFR 86	MEEZ 76	5064E-06	SWMU3-northeast corner	Soil	24"-43"	Hand auger	Sample was highly homogeneous tight brown clay - different from clays sampled at locations 3, 4, and 5. Groundwater was encountered at 3 feet deep.
11/06/89	1700	7	EFR 87	MEEZ 77	5064E-07	SWMU3-southwest corner	Soil	28"-34"	Power auger to 28" then hand auger	Sample was clay similar to sample #6. Hole filled with groundwater before hand augering.
11/07/89	0900	8	EFR 88	MEEZ 78	5064E-08	SWMU4-southwest corner	Soil	24"-30"	Power auger to 24" then hand auger	Gravel layer of one foot. Sample was tan to brown clay, slightly compacted.
11/07/89	0930	9	EFR 89	MEEZ 79	5064E-09	SWMU4-near north west corner	Soil	20"-38"	Hand auger	Sample was homogeneous light brown clay, semi-compacted.
11/07/89	1030	10	EFR 90	MEEZ 80	5064E-10	SWMU6-west of roadway	Soil	38"-42"	Power auger to 38" then hand auger	Sample was non-homogeneous sandy-gravel and very wet. Hole filled with water during sampling.
11/07/89	1130	11	EFR 91	MEEZ 81	5064E-11	SWMU8-north side of creek	Soil	36"-48"	Hand auger	Sample was homogeneous tan clay, semi-loose. Hole filled with water during sampling.
11/07/89	1230	12	EFR 92	MEEZ 82	5064E-12	SWMU9-west of unit	Soil	36"-48"	Hand auger	Sample was homogeneous tan clay, semi-loose.
11/07/89	1230	12D	EFR 93	MEEZ 83	5064E-13	SWMU9-west of unit (duplicate)	Soil	36"-48"	Hand auger	Duplicate of sample #12.

location, with the cognizance of the U.S. EPA WAM and site representatives.

3.4 Field QC Procedures

The following procedures were used in the field to insure preserving sample integrity and quality:

- Strict sample equipment decontamination procedures were used prior to each sampling to prevent potential for sample cross-contamination;
- Sampling personnel donned clean outer gloves prior to sample collection at each station to prevent potential sample cross-contamination.
- Samples were placed into laboratory prepared sample jars obtained from I-Chem Research, which includes specific lot numbers for each sample jar batch. This will allow identifying potential sample bottle derived contaminants if such are suspected.
- A duplicate soil sample was collected for an indication of overall precision, both in the field and in the laboratory.
- Samples were preserved, packaged and shipped in accordance with accepted U.S. EPA guidelines and the Sampling Visit Work Plan/QAPP.

Samples were shipped to three separate laboratories within the CLP (Gulf South Environmental Labs, Skinner and Sherman Labs, and Versar, Inc.) as assigned by the U.S. EPA Sample Management Office (SMO) depending on the analyses to be performed. The same chain-of-custody form was sent with each sample shipment. Versar was notified by the EPA Region V CLP Coordinator that a unique chain-of-custody form should have been sent with each sample shipment. Based on a telephone conversation with the CLP Coordinator, all appropriate sample bottles were received at each designated laboratory.

3.5 Completion of Activities

All on-site sampling was completed by 1:00 pm, November 7, 1989. The sampling personnel repacked all samples in an ice-filled cooler and verified that all samples were accounted for. Completed sample traffic

reports and packing lists were correlated with chain-of-custody reports (Appendix C). In addition to chain-of-custody records, sampling personnel prepared RAS traffic reports and SAS packing lists in accordance with CLP Region V requirements. The traffic reports and packing lists accompanied the samples to the laboratories and contained the site name, samplers' names, sample description, and sample location. The traffic reports and packing lists were provided by Central Regional Laboratory, U.S. EPA, Region V. Sample forms were completed by 5:00 pm. All forms were shipped with the samples in sealed coolers. After the shipment was accepted by Federal Express, the sampling personnel called the Sample Management Office (SMO) and notified SMO of the shipment. Field notes documenting all aspects of the sampling event are shown in Appendix D.

SAMPLE PHOTO LOG
Allied-Signal Corporation
Danville, Illinois

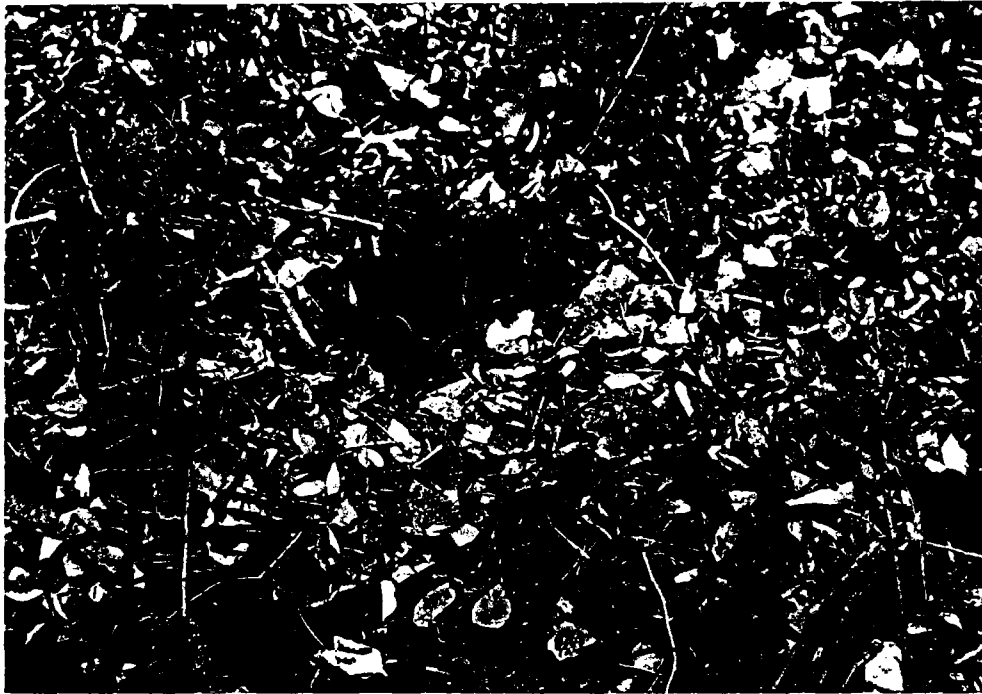


Photo No.: 1	Location: North of Facility
--------------	-----------------------------

Comments: Sample 1. Background; picture of augered hole facing north.



Photo No.: 2	Location: Southwest of Facility
--------------	---------------------------------

Comments: Sample 2. Background; picture of augered hole facing north.

Allied-Signal Corporation
Danville, Illinois

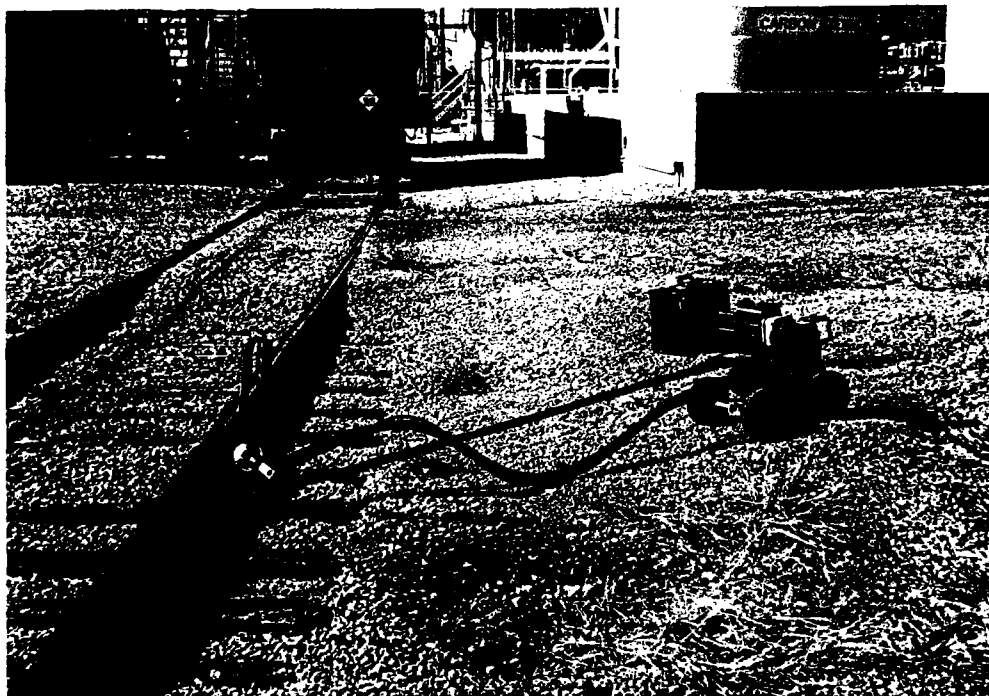


Photo No.: 3

Location: Southwest of SWMU 1

Comments: Sample 3. Picture of augered hole with power auger facing west.



Photo No.: 4

Location: Southeast of SWMU 1

Comments: Sample 4. Picture of augered hole facing west.

Allied-Signal Corporation
Danville, Illinois

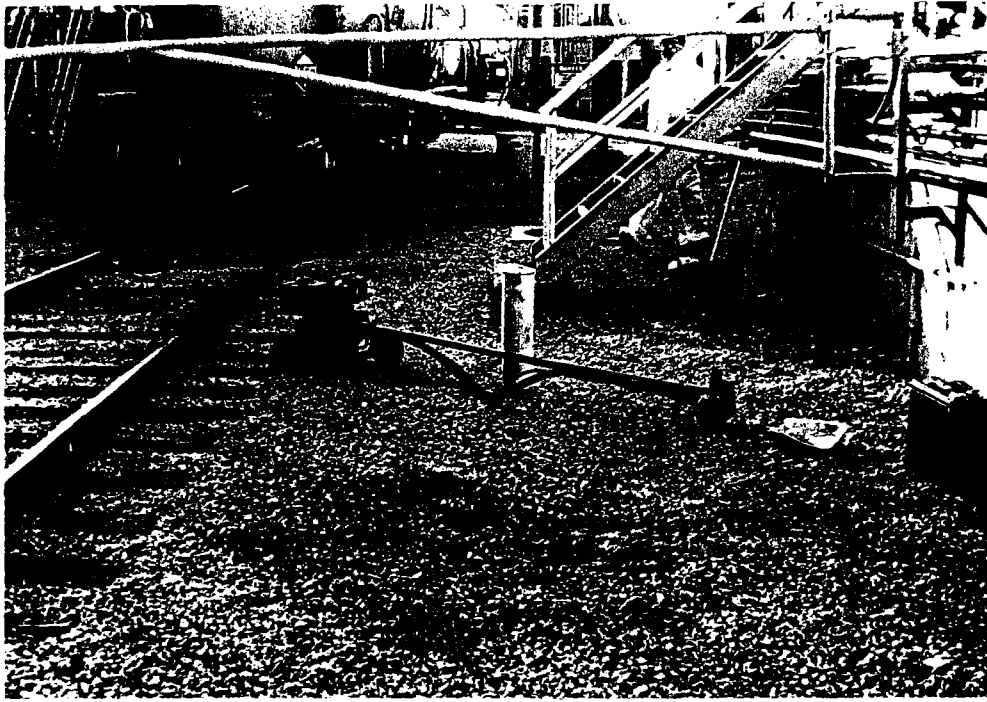


Photo No.: 5

Location: A SWMU 7

Comments: Sample 5. Picture of augered hole facing west.



Photo No.: 6

Location: Northwest of SWMU 3

Comments: Sample 6. Picture of augered hole facing west.

Allied-Signal Corporation
Danville, Illinois



Photo No.: 7

Location: A SWMU 5

Comments: Sample 7. Picture of augered hole facing east.

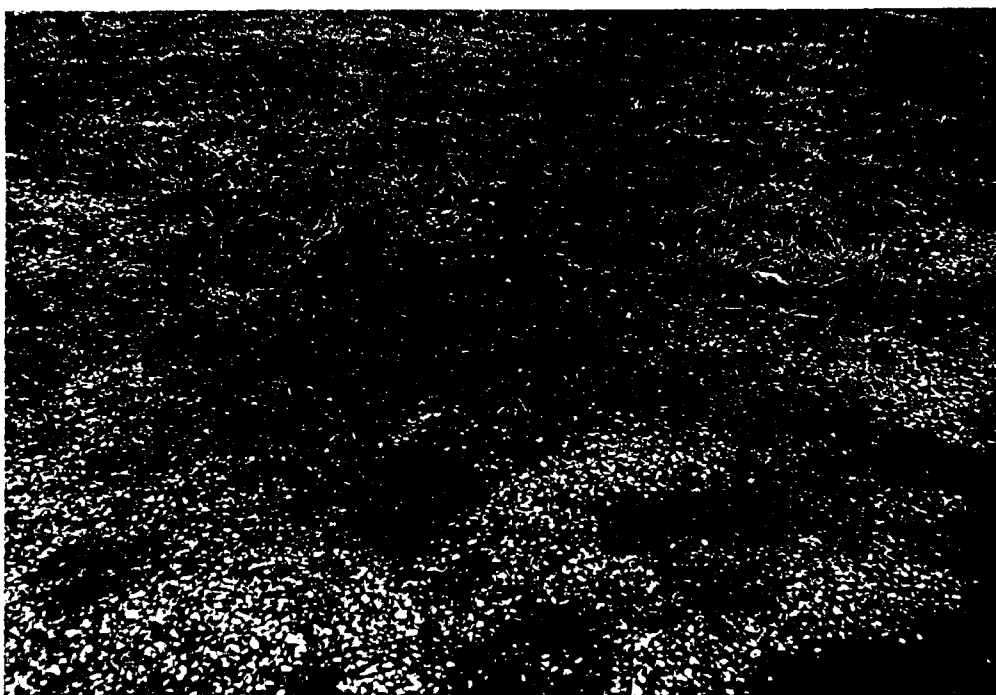


Photo No.: 8

Location: Southwest of SWMU 4

Comments: Sample 8. Picture of augered hole facing north.

GENERAL PHOTO LOG
Allied-Signal Corporation
Danville, Illinois



Photo No.: 1	Location: West of facility facing south
--------------	---

Comments: Photo taken after completing sample #1.

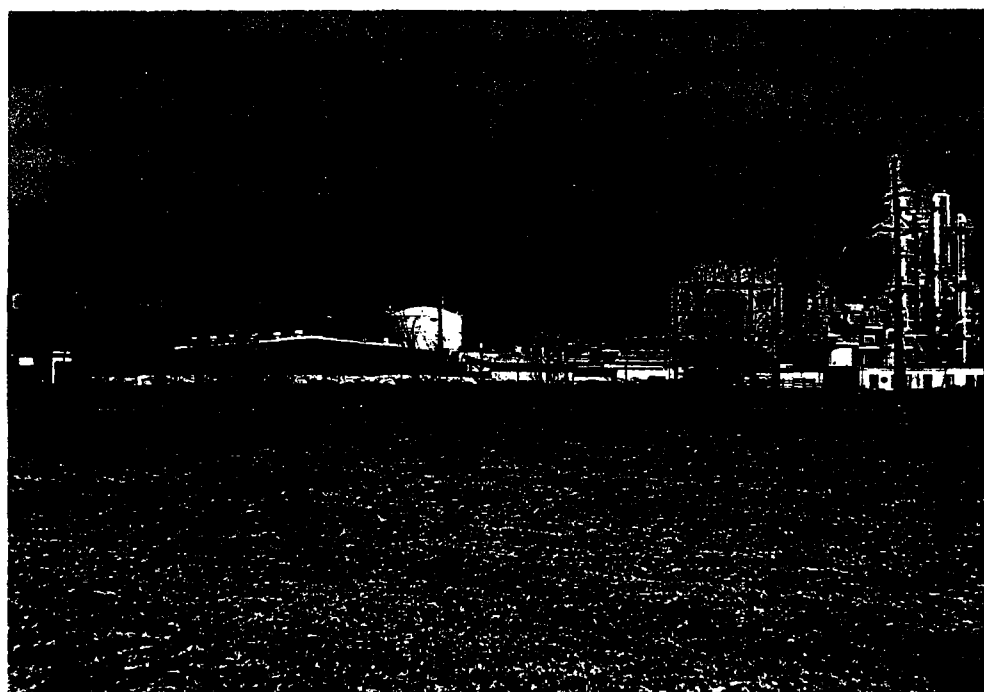


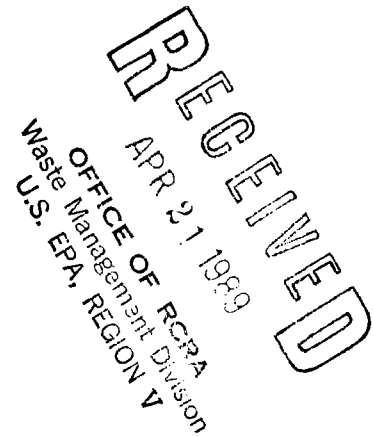
Photo No.: 2	Location: Southwest of facility facing northeast
--------------	--

Comments: Photo taken after completing sample #2.



Allied-Signal Inc.
P.O. Box 13
Danville, IL 61834
Telephone (217) 446-4700

April 19, 1989



Mr. Robert A. Fuhrer
Environmental Scientist/Geologist
Region V EPA (5HR-13)
230 South Dearborn
Chicago, IL 60604

SUBJECT: AMENDMENT OF CERTIFICATION REGARDING POTENTIAL
RELEASES FROM SOLID WASTE MANAGEMENT UNITS

Dear Mr. Fuhrer:

In preparing for your Visual Site Inspection scheduled for April 25, 1989, we have become aware of an apparent omission in our August 16, 1985 certification regarding potential releases from solid waste management units. This letter should be considered an amendment to our August 16, 1985 submission.

The 1985 certification stated that there were no landfills. This statement is true in that there has never been a conventional landfill operation at this facility. However, as previously disclosed to EPA, there was a one-time burial event in the middle 1960's of a discarded product. About 1965 or 1966, some 3876 6-ounce and 7692 12-ounce aerosol cans of "U-FOAM" (a two-component urethane foam kit) were buried on plant property.

This disposal event was reported in the 1979 Eckhardt Survey (see Attachment A) and the 1981 Superfund 103 (c) notification for this facility (see Attachment B).

We of course, will be available to answer any questions you may have about this or other "units" during your April 25, 1989 visit. In the meantime, if you need any additional information, please let me know.

Sincerely,

Don M. Phillips
Plant Manager

DMP:pk

cc: G. L. Barrett
J. E. Cooper
Barton Day

48

FORM A: GENERAL FACILITY INFORMATION

Company Name: Allied Chemical Corporation

Facility Name: Danville Works

Address: Brewer Road P. O. Box 13
No. Street

Danville,	Illinois	61832
City	State	Zip Code

Name of Person Completing Form: N. A. Lanter

Position: Manager Technical

Phone Number: (201) 455-4294

1. Year Facility Opened 19 55 (10-11)
2. Primary SIC Code 2869 (12-15)
2 8 1 9
3. Estimate the total amounts of process wastes (excluding wastes sold for use) generated by this facility during 1978:
- thousand gallons (16-24)
- hundred tons 905 (25-32)
- thousand cubic yards (33-41)
4. Estimate (in whole percents) how these process wastes generated in 1978 were disposed of:
- in landfill 0 (42-44)
- in pit/pond/lagoon 0 (45-47)
- in deep well 100 (48-50)
- incinerated (51-53)
- reprocessed/recycled (54-56)
- evaporated (57-59)
- unknown (60-62)
- other (Specify _____) (63-65)
5. What is the total number of known sites (including disposal on the property where this facility is located as one site) that have been used for the disposal of process wastes from this facility since 1950?..... 14 (66-68)

COMPLETE ONE FORM "B" FOR EACH OF THE SITES

6. Have any of the process wastes generated at this facility been hauled (removed) from this facility for disposal? (Yes=1; no=2) 11 (69)

IF YES, COMPLETE FORM "C"

7. Do you know the disposal site locations of all of the process waste hauled from your facility since 1950? (Yes=1; no=2) |1| (70)

IF NO, COMPLETE ONE FORM "D" FOR EACH FIRM OR CONTRACTOR WHO TOOK WASTE TO AN UNKNOWN LOCATION

8. Specify the earliest year represented by information from company
or facility records supplied on this and other forms19|5|5| (71-72)
9. Specify the earliest year represented by information from employee
knowledge supplied on this and other forms19|5|5| (73-74)

ATTACHMENT TO FORM A

DANVILLE WORKS

Item 3

- a. Includes 36134 tons of contaminated rainwater injected into deepwell.
- b. Does not include demolition of retired muriatic acid purification unit because demolition contract awarded all vessels and scrap material to contractor.

COMPLETE THIS FORM FOR EVERY SITE (INCLUDING THE LOCATION OF THIS FACILITY AS ONE SITE) USED FOR THE DISPOSAL OF PROCESS WASTES GENERATED BY THIS FACILITY SINCE 1950.

Company Name: Allied Chemical Corporation
Facility Name: Danville Works
Name of Site: Danville Works
Address of Site: Brewer Road

no. street

Danville Illinois 61832
city state zip code

Name of Owner (while used by facility): Allied Chemical Corporation
Address: Brewer Road

no. street

Danville Illinois 61832
city state zip code

Current Owner (if different from above): Same
Address: _____

no. street

city state zip code

1. Location (1= the property on which facility is located; 2= off-site)..... 1 (10)
2. Ownership at time of use (1= company ownership; 2=private but not company ownership) 3=public ownership) 1 (11)
3. Current status (1= closed; 2= still in use; 9=don't know) 2 (12)
IF CLOSED, specify year closed 19 (13-14)
4. Year first used for process waste from this facility 19 55 (15-16)
5. Year last used for process waste from this facility (enter "79" if still in use) 19 79 (17-18)
6. Total amount of process waste from this facility disposed at site:
thousand gallons (19-26)
hundred tons 7 4 8 8 (27-33)
thousand cubic yards (34-41)
7. Specify type(s) of disposal method(s) used at site and whether method is still in use (1=currently in use; 2=no longer in use; 3=never used; 9=don't know)
☒ landfill, mono industrial waste 2 (42)
☐ landfill, mixed industrial waste 3 (43)
☐ landfill, drummed waste 3 (44)
☐ landfill, municipal refuse co-disposed ... 3 (45)
☒ pits/ponds/lagoons 1 (46)
☒ deep well injection 1 (47)
☐ land farming 3 (48)
☐ incineration 3 (49)
☐ treatment (eg. neutralizing)..... 3 (50)
☐ reprocessing/recycling 3 (51)
☐ other (specify) (52)
8. Users of this site (1=this facility; 2=this facility and other company facilities only; 3=this company and others; 9=don't know) 3 (53)

LIST NAMES AND ADDRESSES OF OTHER KNOWN USERS BELOW

Tee Pak Inc. 915 Michigan Avenue, Danville, Illinois 61832

Facility Name: Danville Works

Site Name: Danville Works

9. Components (or characteristics) of process waste from this facility disposed at site: (1=present in waste; 2=not present in waste; 9=don't know)

FILL IN EVERY BLOCK SPACE

Acid solutions, with pH < 3.....	1	(10)
pickling liquor	2	(11)
metal plating waste	2	(12)
circuit etchings	2	(13)
inorganic acid manufacture	1	(14)
organic acid manufacture	2	(15)
Base solutions, with pH > 7/2.....	2	(16)
caustic soda manufacture	2	(17)
nylon and similar polymer generation	2	(18)
scrubber residual	2	(19)
Heavy metals & trace metals (bonded organically & inorganically)	1	(20)
arsenic, selenium, antimony	1	(21)
mercury	1	(22)
iron, manganese, magnesium	1	(23)
zinc, cadmium, copper, chromium (trivalent)	1	(24)
chromium (hexavalent)	1	(25)
lead	1	(26)
Radioactive residues, > 50 pico curies/ 250 g/l	2	(27)
uranium residuals & residuals for UF ₆ recycling	2	(28)
lanthanide series elements and rare earth salts	2	(29)
phosphate slag	2	(30)
thorium	2	(31)
radium	2	(32)
other alpha, beta & gamma emitters	2	(33)
Organics.....	1	(34)
pesticides & intermediates	2	(35)
herbicides & intermediates	2	(36)
fungicides & intermediates	2	(37)
rodenticides & intermediates	2	(38)
halogenated aliphatics	1	(39)
halogenated aromatics	9	(40)
acrylates & latex emulsions	2	(41)
PCB/PBB's	2	(42)
amides, amines, imides	1	(43)
plastizers	2	(44)
resins	2	(45)
elastomers	2	(46)
solvents pesticide (except water)	9	(47)
carbontetrachloride	1	(48)
trichloroethylene pesticide	1	(49)
other solvents non pesticide	9	(50)
solvents halogenated aliphatic.....	1	(51)
solvents halogenated aromatic	9	(52)
oils and oil sludges	1	(53)
esters and ethers	2	(54)
alcohols	1	(55)
ketones & aldehydes	2	(56)
dioxins	2	(57)
Inorganics	1	(58)
salts	1	(59)
mercaptans	2	(60)
Misc.....	1	(61)
pharmaceutical wastes	2	(62)
paints & pigments	2	(63)
✓ catalysts (eg. vanadium, platinum, palladium)	1	(64)
asbestos	9	(65)
shock sensitive wastes (eg. nitrated toluenes)	2	(66)
air water reactive wastes (eg. P ₄ , aluminum chloride)	1	(67)
wastes with flash point below 100° F.....	2	(68)

ALLIED CHEMICAL CORPORATION
DANVILLE WORKS

ATTACHMENT TO FORM B

Item 7

a. Landfill, mono industrial waste (42)

Estimated 500 tons of waste gypsum from Tee Pak, Inc. diverted from normal disposal and used as bulk fill material for closure of old residue pond (approx. 1963 for 2-week period). #1 pond

b. Other (52)

Buried about 3876 6 oz. aerosol cans and 7692 12 oz. aerosol cans of "U-FOAM" (derivative of toluene diisocyanate).

Item 9 (Minor Contaminants)

a) Occasionally muriatic acid is injected into the deepwell. Analysis of a typical sample in 1977 showed the following impurities:

(21)	Arsenic	0.030	mg/l
(22)	Mercury	0.0017	mg/l
(23)	Iron	0.60	mg/l
	Manganese	0.06	mg/l
(24)(25)	Chromium	0.005	mg/l (no determination whether trivalent or hexavalent)
(48)	carbon tetrachloride	0.0015	mg/l

b) Other past analyses on muriatic acid showed the following:

(39)(51) trichloromonofluoromethane 10 ppm

c) Aluminum chloride was used in the process until 1978 and would be present in solution in waste material injected into the deepwell.

COMPLETE THIS FORM FOR EVERY SITE (INCLUDING THE LOCATION OF THIS FACILITY AS ONE SITE) USED FOR THE DISPOSAL OF PROCESS WASTES GENERATED BY THIS FACILITY SINCE 1950.

Company Name: Allied Chemical Corporation
Facility Name: Danville Works
Name of Site: Danville City Dump
Address of Site: Greenwood Cemetery Road
no. street
Danville Illinois 61832
city state zip code

Name of Owner (while used by facility): City of Danville
Address: 402 North Hazel
no. street
Danville Illinois 61832
city state zip code

Current Owner (if different from above): Same
Address: _____
no. street
_____ city state zip code

1. Location (1= the property on which facility is located; 2= off-site)..... 2 (10)
2. Ownership at time of use (1= company ownership; 2=private but not company ownership) 3=public ownership) 3 (11)
3. Current status (1= closed; 2= still in use; 9=don't know) 1 (12)
IF CLOSED, specify year closed 1974 (13-14)
4. Year first used for process waste from this facility 1955 (15-16)
5. Year last used for process waste from this facility (enter "79" if still in use) 1967 (17-18)
6. Total amount of process waste from this facility disposed at site:
thousand gallons (19-26)
hundred tons 06 Tons (27-33)
thousand cubic yards (34-41)
7. Specify type(s) of disposal method(s) used at site and whether method is still in use (1=currently in use; 2=no longer in use; 3=never used; 9=don't know)
landfill, mono industrial waste 3 (42)
landfill, mixed industrial waste 2 (43)
landfill, drummed waste 9 (44)
landfill, municipal refuse co-disposed ... 2 (45)
pits/ponds/lagoons 3 (46)
deep well injection 3 (47)
land farming 3 (48)
incineration 3 (49)
treatment (eg. neutralizing)..... 9 (50)
reprocessing/recycling 9 (51)
other (specify) 9 (52)
8. Users of this site (1=this facility; 2=this facility and other company facilities only; 3=this company and others; 9=don't know) 3 (53)

LIST NAMES AND ADDRESSES OF OTHER KNOWN USERS BELOW

Unknown

Facility Name: Danville Works

Site Name: Danville City Dump

9. Components (or characteristics) of process waste from this facility disposed at site: (1=present in waste; 2=not present in waste; 9=don't know)

FILL IN EVERY BLOCK SPACE

Acid solutions, with pH < 3.....	[2]	(10)
pickling liquor	[2]	(11)
metal plating waste	[2]	(12)
circuit etchings	[2]	(13)
inorganic acid manufacture	[2]	(14)
organic acid manufacture	[2]	(15)
Base solutions, with pH > 12.....	[2]	(16)
caustic soda manufacture	[2]	(17)
nylon and similar polymer generation	[2]	(18)
scrubber residual	[2]	(19)
Heavy metals & trace metals (bonded organically & inorganically)	[1]	(20)
arsenic, selenium, antimony	[1]	(21)
mercury	[9]	(22)
iron, manganese, magnesium	[1]	(23)
zinc, cadmium, copper, chromium (trivalent)	[9]	(24)
chromium (hexavalent)	[9]	(25)
lead	[9]	(26)
Radioactive residues, > 50 pico curies/gram	[2]	(27)
uranium residuals & residuals for UF ₆ recycling	[2]	(28)
lanthanide series elements and rare earth salts	[2]	(29)
phosphate slag	[2]	(30)
thorium	[2]	(31)
radium	[2]	(32)
other alpha, beta & gamma emitters	[2]	(33)
Organics	[1]	(34)
pesticides & intermediates	[2]	(35)
herbicides & intermediates	[2]	(36)
fungicides & intermediates	[2]	(37)
rodenticides & intermediates	[2]	(38)
halogenated aliphatics	[1]	(39)
halogenated aromatics	[9]	(40)
acrylates & latex emulsions	[1]	(41)
PCB/PBB's	[2]	(42)
amides, amines, imides	[2]	(43)
plasticizers	[1]	(44)
resins	[1]	(45)
elastomers	[2]	(46)
solvents petroleum (except water)	[2]	(47)
carbontetrachloride	[1]	(48)
trichloroethylene	[1]	(49)
other solvents non-halogenated	[9]	(50)
solvents halogenated aliphatic	[1]	(51)
solvents halogenated aromatic	[9]	(52)
oils and oil sludges	[1]	(53)
esters and ethers	[2]	(54)
alcohols	[2]	(55)
ketones & aldehydes	[2]	(56)
dioxins	[2]	(57)
Inorganics	[1]	(58)
salts	[1]	(59)
mercaptans	[2]	(60)
Misc.	[1]	(61)
pharmaceutical wastes	[2]	(62)
paints & pigments	[1]	(63)
catalysts (eg. vanadium, platinum, palladium)	[1]	(64)
asbestos	[1]	(65)
shock sensitive wastes (eg. nitrated toluenes)	[2]	(66)
air water reactive wastes (eg. P ₄ , aluminum chloride)	[2]	(67)
wastes with flash point below 100° F.	[2]	(68)

ALLIED CHEMICAL CORPORATION
DANVILLE WORKS

ATTACHMENT TO FORM B

DANVILLE CITY DUMP

Operation of the Danville City Dump was taken over by H&L Landfill from 1971 until 1974 when it was closed. During this period it was known as H&L Disposal Site 1.

COMPLETE THIS FORM FOR EVERY SITE (INCLUDING THE LOCATION OF THIS FACILITY AS ONE SITE) USED FOR THE DISPOSAL OF PROCESS WASTES GENERATED BY THIS FACILITY SINCE 1950.

Company Name: Allied Chemical Corporation
 Facility Name: Danville Works
 Name of Site: Thomas 12th Street Sanitary Landfill
 Address of Site: Greenwood Cemetery Road
 no. street

Danville Illinois 61832
 city state zip code

Name of Owner (while used by facility): Joe Thomas
 Address: 304 Mayfield
 no. street

Danville Illinois 61832
 city state zip code

Current Owner (if different from above): Same
 Address: _____
 no. street

_____ city state zip code

1. Location (1= the property on which facility is located; 2= off-site)..... 2 (10)
2. Ownership at time of use (1= company ownership; 2=private but not company ownership) 3=public ownership) 2 (11)
3. Current status (1= closed; 2= still in use; 9=don't know) 2 (12)
 IF CLOSED, specify year closed 19 (13-14)
4. Year first used for process waste from this facility Est. 1968 (15-16)
5. Year last used for process waste from this facility (enter "79" if still in use) 1976 (17-18)
6. Total amount of process waste from this facility disposed at site:
 thousand gallons (19-26)
 hundred tons 3.2 Tons (27-33)
 thousand cubic yards (34-41)
7. Specify type(s) of disposal method(s) used at site and whether method is still in use (1=currently in use; 2=no longer in use; 3=never used; 9=don't know)
 landfill, mono industrial waste 3 (42)
 landfill, mixed industrial waste 1 (43)
 landfill, drummed waste 1 (44)
 landfill, municipal refuse co-disposed ... 1 (45)
 pits/ponds/lagoons 3 (46)
 deep well injection 3 (47)
 land farming 3 (48)
 incineration 3 (49)
 treatment (eg. neutralizing)..... 3 (50)
 reprocessing/recycling 9 (51)
 other (specify) 9 (52)
8. Users of this site (1=this facility; 2=this facility and other company facilities only; 3=this company and others; 9=don't know) 3 (53)

LIST NAMES AND ADDRESSES OF OTHER KNOWN USERS BELOW

Facility Name: Danville Works

Site Name: Thomas 12th Street Sanitary Landfill

9. Components (or characteristics) of process waste from this facility disposed at site: (1=present in waste; 2=not present in waste; 9=don't know)

FILL IN EVERY BLOCK SPACE

Acid solutions, with pH < 3.....	2	(10)
pickling liquor	2	(11)
metal plating waste	2	(12)
circuit etchings	2	(13)
inorganic acid manufacture	2	(14)
organic acid manufacture	2	(15)
Base solutions, with pH > 7 1/2.....	2	(16)
caustic soda manufacture	2	(17)
nylon and similar polymer generation	2	(18)
scrubber residual	2	(19)
Heavy metals & trace metals (bonded organically & inorganically)	1	(20)
arsenic, selenium, antimony	1	(21)
mercury	9	(22)
iron, manganese, magnesium	1	(23)
zinc, cadmium, copper, chromium (trivalent)	9	(24)
chromium (hexavalent)	9	(25)
lead	9	(26)
Radioactive residues, > 50 pico curies/gram.....	2	(27)
uranium residuals & residuals for UF ₆ recycling	2	(28)
lanthanide series elements and rare earth salts	2	(29)
phosphate slag	2	(30)
thorium	2	(31)
radium	2	(32)
other alpha, beta & gamma emitters	2	(33)
Organics.....	1	(34)
pesticides & intermediates	2	(35)
herbicides & intermediates	2	(36)
fungicides & intermediates	2	(37)
rodenticides & intermediates	2	(38)
halogenated aliphatics	1	(39)
halogenated aromatics	9	(40)
acrylates & latex emulsions	1	(41)
PCB/PBB's	2	(42)
amides, amines, imides	2	(43)
plastizers	1	(44)
resins	1	(45)
elastomers.....	2	(46)
solvents petroleum (except water)	2	(47)
carbontetrachloride	1	(48)
trichloroethylene.....	1	(49)
other solvents non petroleum	9	(50)
solvents halogenated aliphatic.....	1	(51)
solvents halogenated aromatic	9	(52)
oils and oil sludges	1	(53)
esters and ethers	2	(54)
alcohols	2	(55)
ketones & aldehydes	2	(56)
dioxins	2	(57)
Inorganics	1	(58)
salts	1	(59)
mercaptans	2	(60)
Misc.....	1	(61)
pharmaceutical wastes	2	(62)
paints & pigments	1	(63)
catalysts (eg. vanadium, platinum, palladium)	1	(64)
asbestos	1	(65)
shock sensitive wastes (eg. nitrated toluenes)	2	(66)
air water reactive wastes (eg. P ₄ , aluminum chloride)	2	(67)
wastes with flash point below 100° F.....	2	(68)

Facility Name: Danville Works

Site Name: H&L Disposal Site 2

9. Components (or characteristics) of process waste from this facility disposed at site: (1=present in waste; 2=not present in waste; 9=don't know)

FILL IN EVERY BLOCK SPACE

Acid solutions, with pH < 3.....	2	(10)
pickling liquor	2	(11)
metal plating waste	2	(12)
circuit etchings	2	(13)
inorganic acid manufacture	2	(14)
organic acid manufacture	2	(15)
Base solutions, with pH > 7 1/2.....	2	(16)
caustic soda manufacture	2	(17)
nylon and similar polymer generation	2	(18)
scrubber residual	2	(19)
Heavy metals & trace metals (bonded organically & inorganically)	1	(20)
arsenic, selenium, antimony	1	(21)
mercury	9	(22)
iron, manganese, magnesium	1	(23)
zinc, cadmium, copper, chromium (trivalent)	9	(24)
chromium (hexavalent)	9	(25)
lead	9	(26)
Radioactive residues, > 5 pico curies/gram.....	2	(27)
uranium residuals & residuals for UF ₆ recycling	2	(28)
lathanide series elements and rare earth salts	2	(29)
phosphate slag	2	(30)
thorium	2	(31)
radium	2	(32)
other alpha, beta & gamma emitters	2	(33)
Organics.....	1	(34)
pesticides & intermediates	2	(35)
herbicides & intermediates	2	(36)
fungicides & intermediates	2	(37)
rodenticides & intermediates	2	(38)
halogenated aliphatics	1	(39)
halogenated aromatics	9	(40)
acrylates & latex emulsions	1	(41)
PCB/PBB's	2	(42)
amides, amines, imides	2	(43)
plastizers	1	(44)
resins	1	(45)
elastomers	2	(46)
solvents petroleum (except water)	2	(47)
carbontetrachloride	1	(48)
trichloroethylene	2	(49)
other solvents non petroleum	9	(50)
solvents halogenated aliphatic.....	1	(51)
solvents halogenated aromatic	9	(52)
oils and oil sludges	1	(53)
esters and ethers	2	(54)
alcohols	2	(55)
ketones & aldehydes	2	(56)
dioxins	2	(57)
Inorganics	1	(58)
salts	1	(59)
mercaptans	2	(60)
Misc.....	1	(61)
pharmaceutical wastes	2	(62)
paints & pigments	1	(63)
catalysts (eg. vanadium, platinum, palladium)	1	(64)
asbestos	1	(65)
shock sensitive wastes (eg. nitrated toluenes)	2	(66)
air water reactive wastes (eg. P ₄ , aluminum chloride)	2	(67)
wastes with flash point below 100° F.....	2	(68)

PROVIDE A COMPLETE LIST OF ALL FIRMS AND INDEPENDENT CONTRACTORS,
INCLUDING THE COMPANY AND ITS AFFILIATES AND SUBSIDIARIES, USED
TO REMOVE PROCESS WASTES FROM THIS FACILITY SINCE 1950.

Company Name: Allied Chemical Corporation

Facility Name: Danville Works

<u>Name of Firm or Contractor</u>	<u>Address</u>	<u>ICC # (If Known)</u>	<u>Years Used</u>
Moore's Disposal Service	1110 North Collett Danville, Illinois 61832	-	1955 to 1979
Duckett's Disposal, Inc.	Murray Clark Road Danville, Illinois 61832	-	1979

Please type or print in ink. If you need additional space, use separate sheets of paper. Indicate the letter of the item which applies.

8.

Name Allied Corporation

Name Allied Corporation
Street P. O. Box 1139R
City Morristown State N J Zip Code 07960

Name of Site **Danville Works**

Street Brewer Road, P. O. Box 13

City Danville Country Vermillion State Ill Zip Code 61832

Name (Last, First and Title) Shields, Edward

Phone (201) 455-5630

Director, Environmental Services, Allied Chemical *

From (Year)	1955	To (Year)	Current
-------------	------	-----------	---------

Enter the years that you estimate waste treatment, storage, or disposal began and ended at the site.

Option 1: Select general waste types and source categories. If you do not know the general waste types or sources, you are encouraged to describe the site in Item I—Description of Site.

General Type of Waste:
Place an X in the appropriate
boxes. The categories listed
overlap. Check each applicable
category.

Source of Waste:
Place an X in the appropriate boxes.

1. ☒ Organics
2. ☒ Inorganics
3. ☐ Solvents
4. ☐ Pesticides
5. ☒ Heavy metals
6. ☒ Acids
7. ☒ Bases
8. ☐ PCBs
9. ☐ Mixed Municipal Waste
10. ☐ Unknown
11. ☐ Other (Specify)

1. ☐ Mining
2. ☐ Construction
3. ☐ Textiles
4. ☐ Fertilizer
5. ☐ Paper/Printing
6. ☐ Leather Tanning
7. ☐ Iron/Steel Foundry
8. ☒ Chemical, General
9. ☐ Plating/Polishing
10. ☐ Military/Ammunition
11. ☐ Electrical Conductors
12. ☐ Transformers
13. ☐ Utility Companies
14. ☐ Sanitary/Refuse
15. ☐ Photofinish
16. ☐ Lab/Hospital
17. ☐ Unknown
18. ☐ Other (Specify)

Option 2: This option is available to persons familiar with the Resource Conservation and Recovery Act (RCRA) Section 300 regulations (40 CFR Part 261).

Specific Type of Waste:

EPA has assigned a four-digit number to each hazardous waste listed in the regulations under Section 3001 of RCRA. Enter the appropriate four-digit number in the boxes provided. A copy of the list of hazardous wastes and codes can be obtained by contacting the EPA Region serving the State in which the site is located.

[illegible]

Waste Quantity:

Place an X in the appropriate boxes to indicate the facility types found at the site.

In the "total facility waste amount" space give the estimated combined quantity (volume) of hazardous wastes at the site in cubic feet or gallons.

In the "total facility area" space, give the estimated area size which the facilities occupy using square feet or acres.

Facility Type

1. ☐ Piles
2. ☐ Land Treatment
3. ☒ Landfill
4. ☐ Tanks
5. ☒ Impoundment
6. ☐ Underground Injection
7. ☐ Drums, Above Ground
8. ☐ Drums, Below Ground
9. ☐ Other (Specify) _____

Total Facility Waste Amount

cubic feet

_____ @ 8,000 to 8,500 tons

Total Facility Area

square feet

acres

Known, Suspected or Likely Releases to the Environment:

Place an X in the appropriate boxes to indicate any known, suspected, or likely releases of wastes to the environment.

☒ Known ☐ Suspected ☐ Likely ☐ Non-

Note: Items Hand I are optional. Completing these items will assist EPA and State and local governments in locating and assessing hazardous waste sites. Although completing the items is not required, you are encouraged to do so.

Sketch Map of Site Location: (Optional)

Sketch a map showing streets, highways, routes or other prominent landmarks near the site. Place an X on the map to indicate the site location. Draw an arrow showing the direction north. You may substitute a publishing map showing the site location.

Sketches Attached

Description of Site: (Optional)

Describe the history and present conditions of the site. Give directions to the site and describe any nearby wells, springs, lakes, or housing. Include such information as how waste was disposed and where the waste came from. Provide any other information or comments which may help describe the site conditions.

This plant makes chlorofluorocarbons and muriatic acid. Current disposal facilities have been reported under RCRA. The former impoundment reported here has been closed and a response program to control groundwater contamination is being pursued under Illinois EPA supervision.

Signature and Title:

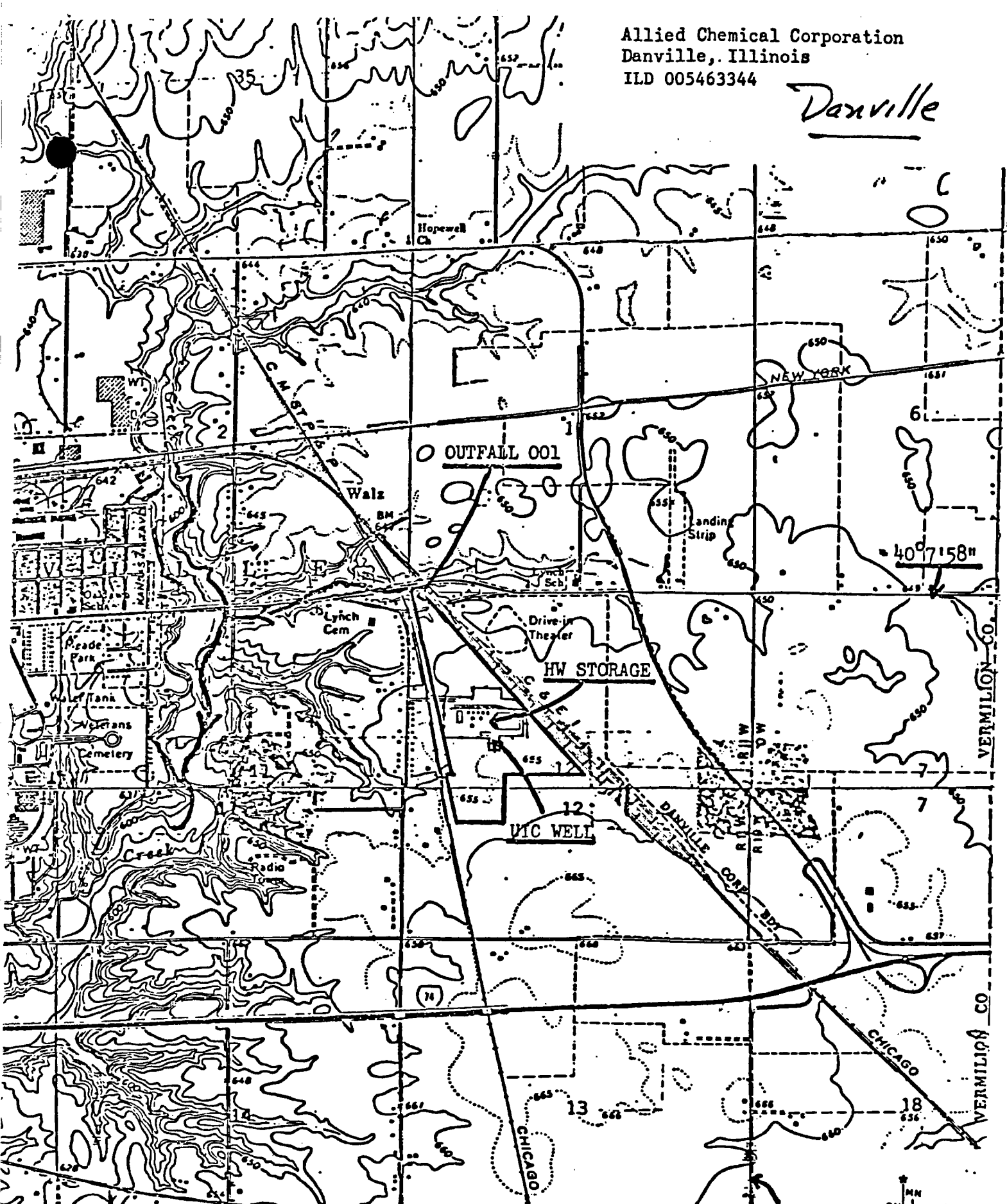
The person or authorized representative (such as plant managers, superintendents, trustees or attorneys) of persons required to notify must sign the form and provide a mailing address (if different than address in item A). For other persons providing notification, the signature is optional. Check the boxes which best describe the relationship to the site of the person required to notify. If you are not required to notify check "Other".

Name Edward ShieldsStreet P. O. Box 1139RCity MorristownState NJZip Code 07960Signature Date 4/2/81

- ☒ Owner, Present
☐ Owner, Past
☐ Transporter
☒ Operator, Present
☐ Operator, Past
☐ Other

Allied Chemical Corporation
Danville, Illinois
ILD 005463344

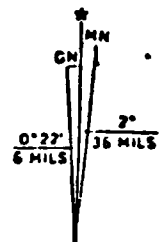
Danville



SCALE 1:24000 DANVILLE SE ILL.-IND. 87°32'30"N
AMS 3464 USE Series II 8631 MILE

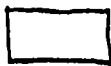
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 5 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET
DOTTED LINES REPRESENT 5-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL



UTM GRID AND 1966 MAGNETIC N
DECLINATION AT CENTER OF SH.

Vermilion Co. Airport
(Danville)



Commuter service
to O'Hare

Bowman Ave.

4 mi

Voorhees St.

3 mi

Main St.

1 mi.

Rt. 136

Brewer Rd.

$\frac{1}{4}$ mi.

Allied
Chemical

$\frac{1}{2}$ mi.

Redwood Inn

I-74 to Indianapolis
Airport

Danville works

08/11

הפולקלור והמסורת העממית

- *Attach copy of any available documentation. Prepared by:
N.A. Lanter

(D.)

PRESS RESPONSE - Superfund Report; Chemicals Company

Danville Works - Danville, IL

The Danville Works has been owned and operated by Allied since 1955. It currently produces chlorofluorocarbons and muriatic acid.

Over the years, an estimated 8,500 tons of process wastes, including antimony catalyst, calcium fluoride and spent carbon were deposited in an on-site basin. The basin was closed and sealed in 1980. The site was reported in the federal Eckhardt Survey of 1979.

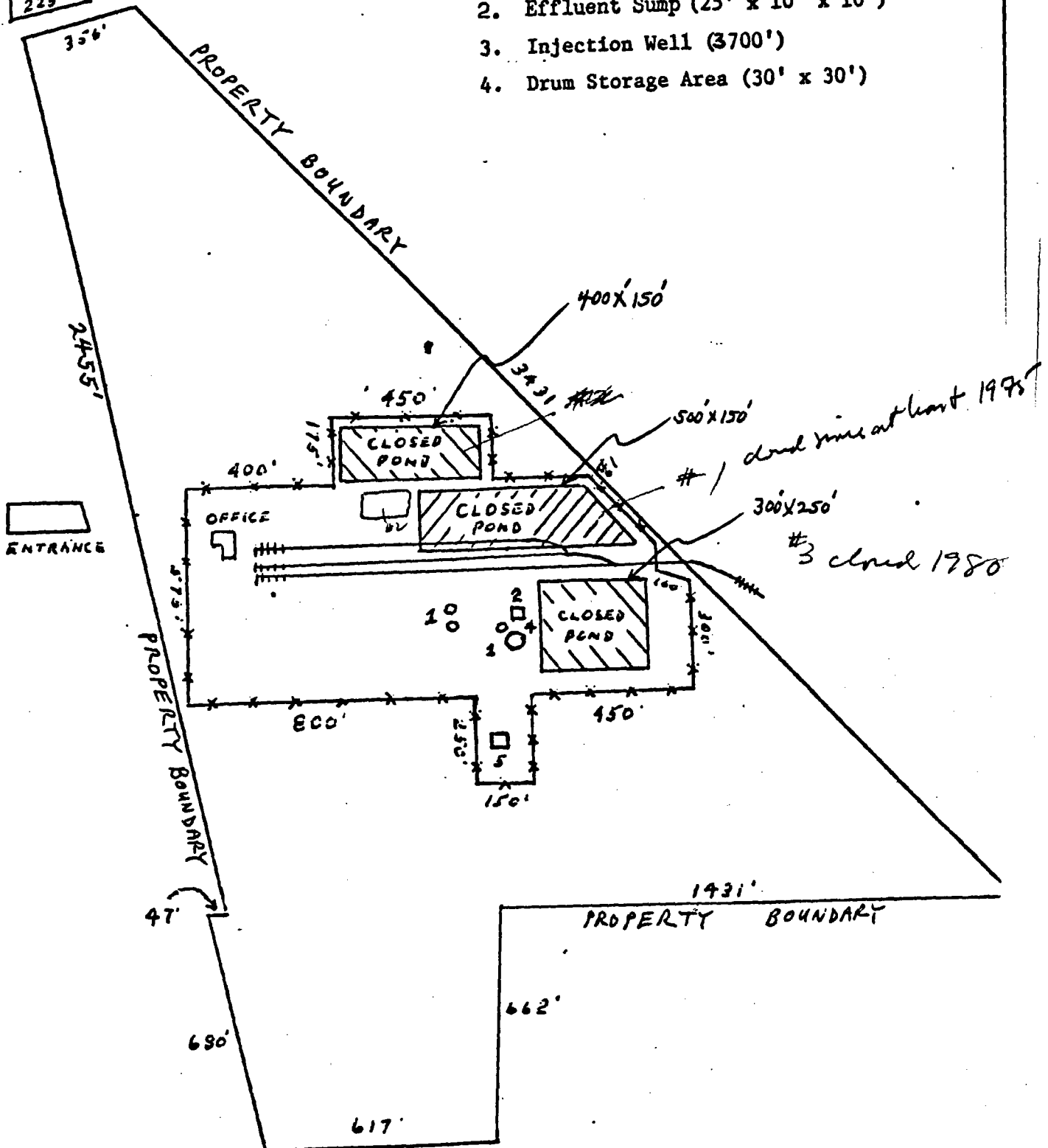
Occasional spills and leaks resulting from normal operations over the years appear to have affected portions of the plant grounds.

A recent study for Allied by an independent consultant appears to show localized contamination of the plant grounds with carbon tetrachloride. The study was submitted to the Illinois Environmental Protection Agency, and Allied implemented a well pumping program to control any potential spread of the chemical. (The program is continuing).

Waste disposal information was reported in the federal Eckhardt Survey in 1979.

4/5

1. Waste Storage Tanks
(33,34,38,40)
2. Effluent Sump (25' x 10' x 10')
3. Injection Well (3700')
4. Drum Storage Area (30' x 30')



SCALE APPROX. $\frac{1}{4}$ " = 100'



Allied Corporation
P.O. Box 13
Danville, IL 61832
Telephone (217) 446-4700

January 21, 1986

RECEIVED

JAN 24 1986

**SWB - AIS
U.S. EPA, REGION V**

RCRA Activities
Region V
P. O. Box A3587
Attention ATKJG
Chicago, Illinois 60690

**SUBJECT: CERTIFICATION REGARDING POTENTIAL RELEASES FROM SOLID WASTE
MANAGEMENT UNITS - ALLIED CORPORATION, ILD005463344**

Dear Sir:

Attached is a letter from your office regarding the subject request. I am returning it unanswered as suggested by Gale Hruska of your office since we provided this requested information in September, 1985.

Please call if you have any questions.

Sincerely,

Richard L. Purgason
Plant Manager

RLP:cmm



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

230 SOUTH DEARBORN ST.

CHICAGO, ILLINOIS 60604

REPLY TO THE ATTENTION OF:

5HS-JCK-13

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

U.S. EPA ID #: ILD005463344

ALLIED CORP
P O BOX 13
DANVILLE

IL 61832

RE: Hazardous Waste Permit Application

Dear Permit Applicant:

As you know, you have previously submitted Part A of the Resource Conservation and Recovery Act (RCRA) permit application for the above-referenced facility. Timely submission of "the Part A" has allowed most hazardous waste management facilities to continue to operate under RCRA "interim status" (or the State program equivalent), while complying with applicable technical and record-keeping standards.

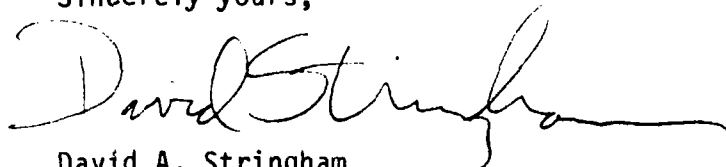
On November 8, 1984, the Hazardous and Solid Waste Amendments of 1984 (the 1984 Amendments) were enacted to modify RCRA. Under the 1984 Amendments, all RCRA permits issued after the date of enactment must provide for corrective action for all releases of hazardous waste or hazardous waste constituents from any solid waste management unit, regardless of the time at which waste was placed in the unit. In addition, all interim status facilities are subject to corrective action requirements, regardless of whether they have 1) submitted a Part B application, 2) submitted a closure plan, 3) reverted to generator status only, 4) actually closed, or 5) none of these. Unless our Agency has formally terminated the facility's interim status, the corrective action requirements apply. Please note that both hazardous and non-hazardous waste can meet the definition of solid waste under 40 CFR 261.2 (or the State regulation equivalent).

We must determine whether releases of hazardous waste or hazardous waste constituents have ever occurred at the facility site. If they have, we must ensure that corrective actions either have been taken or will be taken to eliminate threats to public health or the environment. An important element in our decision process is the information that you provide on the enclosed certification statement. Please read it carefully and either sign it and return it, or return it unsigned with a cover letter of explanation, within 45 days of the date of this letter. At some point in time, public input will be sought to either confirm or deny information you provide, or information we gather on our own, concerning releases and corrective actions.

Please mail your response to the following:

RCRA Activities
Region V
P. O. Box A3587
Attention: ATKJG
Chicago, Illinois 60690

Sincerely yours,

A handwritten signature in cursive script, reading "David Stringham".

David A. Stringham
Chief, Solid Waste Branch

Enclosure

CERTIFICATION REGARDING POTENTIAL RELEASES FROM
SOLID WASTE MANAGEMENT UNITS

FACILITY NAME: _____
EPA I.D. NUMBER: _____
LOCATION CITY: _____
STATE: _____

1. Are there any of the following solid waste management units (existing or closed) at your facility? NOTE - DO NOT INCLUDE HAZARDOUS WASTE UNITS CURRENTLY SHOWN IN YOUR PART A APPLICATION

	<u>YES</u>	<u>NO</u>
◦ Landfill	_____	_____
◦ Surface Impoundment	_____	_____
◦ Land Farm	_____	_____
◦ Waste Pile	_____	_____
◦ Incinerator	_____	_____
◦ Storage Tank (Above Ground)	_____	_____
◦ Storage Tank (Underground)	_____	_____
◦ Container Storage Area	_____	_____
◦ Injection Wells	_____	_____
◦ Wastewater Treatment Units	_____	_____
◦ Transfer Stations	_____	_____
◦ Waste Recycling Operations	_____	_____
◦ Waste Treatment, Detoxification	_____	_____
◦ Other _____	_____	_____

2. If there are "Yes" answers to any of the items in Number 1 above, please provide a description of the wastes that were stored, treated or disposed of in each unit. In particular, please focus on whether or not the wastes would be considered as hazardous wastes or hazardous constituents under RCRA. Also include any available data on quantities or volume of wastes disposed of and the dates of disposal. Please also provide a description of each unit and include capacity, dimensions and location at facility. Provide a site plan if available.

NOTE: Hazardous wastes are those identified in 40 CFR 261. Hazardous constituents are those listed in Appendix VIII of 40 CFR Part 261.

3. For the units noted in Number 1 above and also those hazardous waste units in your Part A application, please describe for each unit any data available on any prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the past or may still be occurring.

Please provide the following information

- a. Date of release
- b. Type of waste released
- c. Quantity or volume of waste released
- d. Describe nature of release (i.e., spill, overflow, ruptured pipe or tank, etc.)

4. In regard to the prior or continuing releases described in Number 3 above, please provide (for each unit) any analytical data that may be available which would describe the nature and extent of environmental contamination that exists as a result of such releases. Please focus on concentrations of hazardous wastes or constituents present in contaminated soil or groundwater.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the submittal is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. (42 U.S.C. 6902 et seq. and 40 CFR 270.11(d))

Typed Name and Title

Signature

Date

CONTINUING RELEASES AT PERMITTED FACILITIES

Sec. 206. Section 3004 of the Solid Waste Disposal Act is amended by adding the following new subsection after subsection (t) thereof:

"(u) CONTINUING RELEASES AT PERMITTED FACILITIES.—Standards promulgated under this section shall require, and a permit issued after the date of enactment of the Hazardous and Solid Waste Amendments of 1984 by the Administrator or a State shall require, corrective action for all releases of hazardous waste or constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit under this subtitle, regardless of the time at which waste was placed in such unit. Permits issued under section 3005 shall contain schedules of compliance for such corrective action (where such corrective action cannot be completed prior to issuance of the permit) and assurances of financial responsibility for completing such corrective action."



Allied Corporation
P.O. Box 13
Danville, IL 61832
Telephone (217) 446-4700

September 6, 1985

RECEIVED

SEP 09 1985

SWB - AIS
U.S. EPA, REGION V

RCRA ACITVITIES
Part B Permit Application
U.S. EPA, Region V
P. O. Box A3587
Chicago, Illinois 60690

SUBJECT: CERTIFICATION REGARDING POTENTIAL RELEASES
FROM SOLID WASTE MANAGEMENT UNITS

C TSD UIC PA 9

Dear Sir:

The attached sheet subject certification was submitted on August 16, 1985 however my signature was inadvertently omitted. I am providing a signed copy in its place.

Please excuse any inconvenience this may have caused.

Sincerely,

Richard L. Purgason
Plant Manager

RLP:cmm

cc: Lawrence Eastep, Manager
Permit Section, DLPC
Illinois EPA
2200 Churchill Road
Springfield, Illinois 62706

COPY



Allied Corporation
P.O. Box 13
Danville, IL 61832
Telephone (217) 446-4700

August 16, 1985

RCRA ACTIVITIES
Part B Permit Application
U.S. EPA, REGION V
P. O. BOX A3587
Chicago, Illinois 60690

SUBJECT: CERTIFICATION REGARDING POTENTIAL RELEASES FROM SOLID WASTE
MANAGEMENT UNITS

Dear Sir:

Per your request, attached is our subject certification. As is stated in the attachment, the supplied information on hazardous waste releases is based on limited records and discussions with the plant personnel. Although we have supplied the requested information, we believe Sections 206 and 233 of the 1984 RCRA Amendments do not apply to this facility since we are not "seeking a permit" nor wish to operate under interim status once closure is completed.

Please contact George Kady of my staff if you have any questions.

Sincerely,

A handwritten signature in cursive script, appearing to read 'R. Purgason'.

Richard L. Purgason
Plant Manager

RLP:cmm

Attachments

cc: Lawrence Eastep, Manager
Permit Section, DLPC
Illinois EPA
2200 Churchill Road
Springfield, Illinois

**CERTIFICATION REGARDING POTENTIAL RELEASES FROM
SOLID WASTE MANAGEMENT UNITS**

FACILITY NAME: Allied Corporation

U.S. EPA I.D. NUMBER: ILD 005463344

LOCATION CITY: Danville

STATE: Illinois

1. Are there any of the following solid waste management units at your facility?

	<u>YES</u>	<u>NO</u>
• Landfill	<u> </u>	<u>X</u>
• Surface Impoundment	<u> </u>	<u>X</u> Closed 1980
• Land Farm	<u> </u>	<u>X</u>
• Waste Pile	<u> </u>	<u>X</u>
• Incinerator	<u> </u>	<u>X</u>
• Storage Tank (Above Ground)	<u>X</u> Includes	<u> </u>
• Storage Tank (Underground)	<u> </u> in ground	<u>X</u>
• Container Storage Area	<u>X</u>	<u> </u>
• Injection Wells	<u>X</u>	<u> </u>
• Wastewater Treatment Units	<u> </u>	<u>X*</u>
• Transfer Stations	<u> </u>	<u>X</u>
• Waste Recycling Operations	<u> </u>	<u>X</u>
• Waste Treatment, Detoxification	<u> </u>	<u>X</u>
• Other <u>CO₂ recovery wells (6)</u>	<u>X</u>	<u> </u>

2. If there are "Yes" answers to any of the items in Number 1 above, please provide a description of the wastes that were stored, treated or disposed of in each unit. In particular, please focus on whether or not the wastes would be considered as hazardous wastes or hazardous constituents under RCRA. Also include any available data on quantities or volume of wastes disposed on and the dates of disposal. Please also provide a description of each unit and include capacity, dimensions, location at facility, provide a site plan if available.

See Attachment I

NOTE: Hazardous wastes are those identified in 40 CFR 261. Hazardous constituents are those listed in Appendix VIII of 40 CFR 261.

* The injection well waste stream is filtered to remove TSS prior to disposal but is considered part of the injection well operation.

3. For the units noted in Number 1 above, please describe for each unit any data available on any prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the past or still be occurring.

Please provide the following information

- a. Date of release
- b. Type of waste or constituent released
- c. Quantity or volume of waste or constituent released
- d. Describe nature of release (i.e., spill, overflow, ruptured pipe or tank, etc.)

See Attachment II

4. In regard to the prior releases described in Number 3 above, please provide (for each unit) any analytical data that may be available which would describe the nature and extent of environmental contamination that exists as a result of such releases. Please focus on concentrations of hazardous wastes or constituents present in contaminated soil or groundwater.

See Attachment III

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the submittal is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. (42 U.S.C. 6902 et seq. and 40 CFR 270.11(d))

Typed Name and Title

Richard C. Pungson
Signature

Sept 5, 1985
Date

ATTACHMENT I

A. STORAGE TANKS

Danville Works operates five storage tanks. Each of these tanks are used to store waste water prior to disposal via an on-site injection well. Each tank is described below.

Process Sump - A concrete, acid-brick lined, open topped, in ground collection sump with a capacity of 19,000 gallons. The tank dimensions are approximately 25' long x 10' wide x 10' deep. This sump is used to collect process waste water via an underground sewer system and overhead piping. The waste water is then pumped to the process waste water storage tanks prior to injection in the deep well.

#33 Tank - A rubber lined steel, above ground tank with a capacity of 20,000 gallons. It has a diameter of 12' and is 25' high. This tank, which is usually interconnected through piping with #34 tank, is a primary receiving tank of the waste water that is pumped from the process sump. From these two tanks (#33 and #34) the waste water is usually continuously fed to the deep well. Based on the injection rate, the residence time of any single tankful of waste water is usually less than 24 hours.

#34 Tank - A fiberglass, above ground tank with a capacity of 20,000 gallons. This tank is identical in size to #33 tank and its operation is as described for #33 tank.

#40 Tank - A rubber lined steel, above ground tank with a capacity of 420,000 gallons. It is 40' high and has a diameter of 43 1/2". This tank is primarily used as back up for #33 and #34 tanks and is usually empty.

#35 Tank - A steel, above ground tank with a capacity of 2300 gallons. It is 10' high and has a diameter of 9'. This tank receives spent caustic from the process. Here the caustic is treated with nickel chloride to prevent free chlorine from being released when this waste is later mixed with acidic waste water. The treated waste is pumped to the process sump and subsequently disposed via the injection well.

The waste water handled in these tanks is composited and analyzed on a weekly basis. Although the results vary, this waste water must meet the following characteristics per UIC permit by rule conditions.

pH	Not less than 0.1
Specific Gravity	1.0 to 1.16
Hydrochloric acid	Less than 31.5%
Hydrofluoric acid	Less than 1.0%
Inorganic chloride salts	Less than 25,000 ppm
Cobalt or Nickel	Less than 50 ppm
Arsenic	Less than 500 ppm
Other organic salts	Less than 10,000 ppm

This waste water is designated hazardous since at times the pH is <2.0 and the arsenic concentration at present exceeds 5.0 mg/l. On the average, 70,000 gallons of waste water is injected in the deep well each day.

(See also Section C below).

B. CONTAINER STORAGE AREA

The container storage/staging area is located north of #40 tank. The storage pad is 25' x 25' and surrounded by a six inch curb. The area is under roof to provide protection from adverse weather. Storage capacity is 200 55 gallon drums. Notification has been made regarding the short-term storage for the following hazardous wastes:

<u>WASTE</u>	<u>CODE</u>	<u>AMOUNT PERMITTED</u>
paint	D001	5,000 pounds
carbon tetrachloride	U211	50,000 pounds
solvents	F001	2,400 pounds
methylene chloride	U080	1,825 pounds
activated alumina, sulfuric demisters	D004	25,000 pounds
deep well filters	D004,D002	5,000 pounds
paint filters	D001,D008	10,000 pounds
methyl ethyl ketone	F005	2,000 pounds

In addition to the hazardous wastes stored here, non hazardous waste such as activated alumina (non hazardous), water softener resin beads and waste oil may be stored in limited quantities. All containerized waste is disposed of at EPA permitted off-site disposal facilities.

C. INJECTION WELL

Danville Works operates an on-site injection well for the disposal of process waste water. This well is drilled to a depth of 4025 feet. The well is permitted and regulated by the IEPA's Underground Injection Control Program. Injection rate and pressure are limited by permit to 150 gpm and 100 psi respectively. The waste stream was described in section A. (Storage Tanks).

D. CARBON TETRACHLORIDE RECOVERY WELLS

Danville Works operates 6 carbon tetrachloride (CCl₄) recovery wells. These wells recover carbon tetrachloride from the ground water immediately beneath the plant. The ground water contamination resulted from an undetected carbon tetrachloride storage tank leak and small spills associated with years of tank car unloading operations. Carbon tetrachloride is stored as a raw material and used in the process.

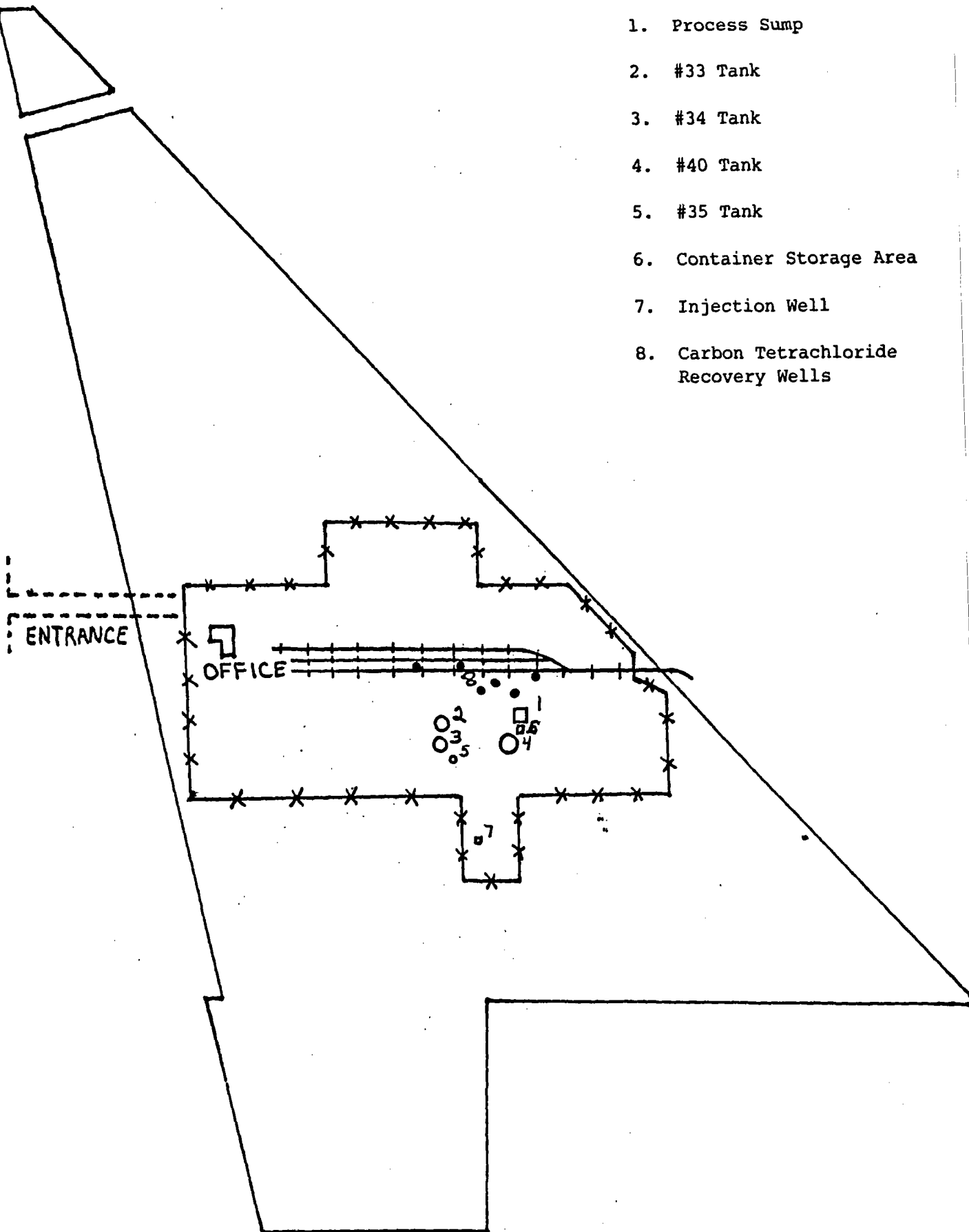
Each recovery well is drilled to a depth of 19-20'. Recovered carbon tetrachloride was initially disposed via the on-site injection wells but is now shipped off-site for incineration. The recovery operation began in 1980 and is continuing today. Our program is monitored by IEPA with quarterly reports being sent to the Division of Land Pollution Control.

D. CARBON TETRACHLORIDE RECOVERY WELLS (CONT.)

Although we have provided information on our carbon tetrachloride recovery operation, the carbon tetrachloride spill was a release of a hazardous substance not a hazardous waste. Therefore this incident should not be regarded as a hazardous waste release.

ATTACHMENT I (CONT.)

1. Process Sump
2. #33 Tank
3. #34 Tank
4. #40 Tank
5. #35 Tank
6. Container Storage Area
7. Injection Well
8. Carbon Tetrachloride Recovery Wells



APPROX. SCALE $\frac{1}{4}" = 100'$

ATTACHMENT II

Based on limited records and discussions with plant personnel, the following releases outside of contained areas are known to have occurred.

A. STORAGE TANKS

PROCESS SUMP On 11/9/79, it appears that while replacing a process sump sewer line, contaminated rainwater entered the plant storm sewer which eventually drains to a nearby creek. Analysis indicated the contaminated rainwater contained 21.5 mg/l Fluoride. A second analyses from a sample taken 2 1/2 hours later was found to be in compliance. This incident was treated as an NPDES permit violation and was reported to IEPA. The permit limit for fluorides was 15. mg/l.

PROCESS SUMP On 2/12/81, the process sump contents overflowed into the storm sewer. This release resulted when the sump pump discharge line froze due to cold weather. The records did not provide an estimate of the amount of waste water spilled. A summary of the analyses is as follows:

<u>DATE</u>	<u>TIME</u>	<u>SAMPLE LOCATION</u>	<u>pH</u>	<u>FLUORIDE mg/l</u>
2-12-81	0903	Sewer Manhole	12.6	770
2-12-81	1105	Outfall 001	12.6	455
2-12-81	1420	Outfall 001	11.9	247
2-12-81	1430	Sewer Manhole	11.5	185
2-12-81	2225	Outfall 001	9.6	50
2-13-81	0700	Sewer Manhole	9.4	29
2-13-81	0758	Outfall 001	9.1	26.5
2-13-81	1330	Outfall 001	8.6	14.8

This incident was treated as an NPDES permit violation and was reported to IEPA. The permit limit for pH and fluoride were 6.0-9.0 and 15 mg/l respectively.

#40 TANK Discussions with plant personnel indicate that #40 tank leaked on more than one occasion. Most of the releases were minor and contained. Non contained leaks (leaks to the ground) were, for the most part, routed to the then active surface impoundment.

B. INJECTION WELL

INJECTION WELL On December 7, 1976, CO₂ gas and waste water blew out of the annulus casing while the injection tubing was being removed from the well. The well was allowed to blow CO₂ gas and water for approximately 12 hours while fresh water was being added in the injection tubing. No estimate of the amount of waste water released was reported, however it is believed that most of the uncontained waste water would have been eventually routed to a nearby creek. At that time arsenic was not present in the deep well effluent as it is characterized in Attachment I.

INJECTION WELL On August 3, 1983, deep well effluent entered the storm sewer when a high pressure rupture disk on the injection line apparently failed. Analysis of a 24 composite sample of Outfall 001 indicated a fluoride concentration of 16.5 mg/L. This incident was treated as an NPDES permit violation and was reported to IEPA. The permit limit for fluoride was 15 mg/L.

CLOSED SURFACE IMPOUNDMENT As previously indicated, Danville Works had previously operated an on-site surface impoundment. This impoundment has since then been drained and closed under IEPA direction. During its use leaks developed in the surface impoundment side walls on occasion. Measures were taken to contain the release to the extent possible. We feel this pond has been successfully closed and have not experienced any problems since closure in 1980. Actual surface impoundment closure was coordinated with IEPA. Quarterly ground water monitoring results which are submitted to IEPA indicate the impoundment contents are being contained. It is also believed this ground water monitoring program would detect any ground water contamination which may result from any plant releases of hazardous material to the environment.

ATTACHMENT III

All available analytical data on each known release of hazardous waste has been provided in Attachments I and II with the exception of our quarterly ground water monitoring results. Since March of 1980, we have sampled and analyzed ground water taken from 15 monitoring wells located throughout the plant and the surrounding area. Each sample is analyzed for temperature, COD, Cl, SO₄, F, B, Sb, CCl₄, ROE, and water depth for a total of approximately 315 samples at 10 parameters each. All results are reported to the Illinois Environmental Protection Agency, Division of Land Pollution Control. Copies of each report can be made available to you upon request.



Allied Corporation
P.O. Box 13
Danville, IL 61832
Telephone (217) 446-4700

August 16, 1985

RECEIVED

AUG 20 1985

U.S. EPA, REGION V

RCRA ACTIVITIES
Part B Permit Application
U.S. EPA, REGION V
P. O. BOX A3587
Chicago, Illinois 60690

SUBJECT: CERTIFICATION REGARDING POTENTIAL RELEASES FROM SOLID WASTE
MANAGEMENT UNITS *1LD005463344 G, TSD, VIC, PA, 9*

Dear Sir:

Per your request, attached is our subject certification. As is stated in the attachment, the supplied information on hazardous waste releases is based on limited records and discussions with the plant personnel. Although we have supplied the requested information, we believe Sections 206 and 233 of the 1984 RCRA Amendments do not apply to this facility since we are not "seeking a permit" nor wish to operate under interim status once closure is completed.

Please contact George Kady of my staff if you have any questions.

Sincerely,

Richard L. Purgason
Plant Manager

RLP:cmm

Attachments

cc: Lawrence Eastep, Manager
Permit Section, DLPC
Illinois EPA
2200 Churchill Road
Springfield, Illinois

**CERTIFICATION REGARDING POTENTIAL RELEASES FROM
SOLID WASTE MANAGEMENT UNITS**

FACILITY NAME: Allied Corporation

U.S. EPA I.D. NUMBER: ILD 005463344

LOCATION CITY: Danville

STATE: Illinois

1. Are there any of the following solid waste management units at your facility?

	<u>YES</u>	<u>NO</u>
• Landfill	<u> </u>	<u>X</u>
• Surface Impoundment	<u> </u>	<u>X</u> Closed 1980
• Land Farm	<u> </u>	<u>X</u>
• Waste Pile	<u> </u>	<u>X</u>
• Incinerator	<u> </u>	<u>X</u>
• Storage Tank (Above Ground)	<u>X</u> Includes	<u> </u>
• Storage Tank (Underground)	<u> </u> in ground	<u>X</u>
• Container Storage Area	<u>X</u>	<u> </u>
• Injection Wells	<u>X</u>	<u> </u>
• Wastewater Treatment Units	<u> </u>	<u>X*</u>
• Transfer Stations	<u> </u>	<u>X</u>
• Waste Recycling Operations	<u> </u>	<u>X</u>
• Waste Treatment, Detoxification	<u> </u>	<u>X</u>
• Other <u>CCl₄ recovery wells (6)</u>	<u>X</u>	<u> </u>

2. If there are "Yes" answers to any of the items in Number 1 above, please provide a description of the wastes that were stored, treated or disposed of in each unit. In particular, please focus on whether or not the wastes would be considered as hazardous wastes or hazardous constituents under RCRA. Also include any available data on quantities or volume of wastes disposed on and the dates of disposal. Please also provide a description of each unit and include capacity, dimensions, location at facility, provide a site plan if available.

See Attachment I

NOTE: Hazardous wastes are those identified in 40 CFR 261. Hazardous constituents are those listed in Appendix VIII of 40 CFR 261.

* The injection well waste stream is filtered to remove TSS prior to disposal but is considered part of the injection well operation.

3. For the units noted in Number 1 above, please describe for each unit any data available on any prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the past or still be occurring.

Please provide the following information

- a. Date of release
- b. Type of waste or constituent released
- c. Quantity or volume of waste or constituent released
- d. Describe nature of release (i.e., spill, overflow, ruptured pipe or tank, etc.)

See Attachment II

4. In regard to the prior releases described in Number 3 above, please provide (for each unit) any analytical data that may be available which would describe the nature and extent of environmental contamination that exists as a result of such releases. Please focus on concentrations of hazardous wastes or constituents present in contaminated soil or groundwater.

See Attachment III

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the submittal is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. (42 U.S.C. 6902 et seq. and 40 CFR 270.11(d))

Typed Name and Title

Signature

Date

ATTACHMENT I

A. STORAGE TANKS

Danville Works operates five storage tanks. Each of these tanks are used to store waste water prior to disposal via an on-site injection well. Each tank is described below.

Process Sump - A concrete, acid-brick lined, open topped, in ground collection sump with a capacity of 19,000 gallons. The tank dimensions are approximately 25' long x 10' wide x 10' deep. This sump is used to collect process waste water via an underground sewer system and overhead piping. The waste water is then pumped to the process waste water storage tanks prior to injection in the deep well.

#33 Tank - A rubber lined steel, above ground tank with a capacity of 20,000 gallons. It has a diameter of 12' and is 25' high. This tank, which is usually interconnected through piping with #34 tank, is a primary receiving tank of the waste water that is pumped from the process sump. From these two tanks (#33 and #34) the waste water is usually continuously fed to the deep well. Based on the injection rate, the residence time of any single tankful of waste water is usually less than 24 hours.

#34 Tank - A fiberglass, above ground tank with a capacity of 20,000 gallons. This tank is identical in size to #33 tank and its operation is as described for #33 tank.

#40 Tank - A rubber lined steel, above ground tank with a capacity of 420,000 gallons. It is 40' high and has a diameter of 43 1/2". This tank is primarily used as back up for #33 and #34 tanks and is usually empty.

#35 Tank - A steel, above ground tank with a capacity of 2300 gallons. It is 10' high and has a diameter of 9'. This tank receives spent caustic from the process. Here the caustic is treated with nickel chloride to prevent free chlorine from being released when this waste is later mixed with acidic waste water. The treated waste is pumped to the process sump and subsequently disposed via the injection well.

The waste water handled in these tanks is composited and analyzed on a weekly basis. Although the results vary, this waste water must meet the following characteristics per UIC permit by rule conditions.

pH	Not less than 0.1
Specific Gravity	1.0 to 1.16
Hydrochloric acid	Less than 31.5%
Hydrofluoric acid	Less than 1.0%
Inorganic chloride salts	Less than 25,000 ppm
Cobalt or Nickel	Less than 50 ppm
Arsenic	Less than 500 ppm
Other organic salts	Less than 10,000 ppm

This waste water is designated hazardous since at times the pH is <2.0 and the arsenic concentration at present exceeds 5.0 mg/l. On the average, 70,000 gallons of waste water is injected in the deep well each day.

(See also Section C below).

B. CONTAINER STORAGE AREA

The container storage/staging area is located north of #40 tank. The storage pad is 25' x 25' and surrounded by a six inch curb. The area is under roof to provide protection from adverse weather. Storage capacity is 200 55 gallon drums. Notification has been made regarding the short-term storage for the following hazardous wastes:

<u>WASTE</u>	<u>CODE</u>	<u>AMOUNT PERMITTED</u>
paint	D001	5,000 pounds
carbon tetrachloride	U211	50,000 pounds
solvents	F001	2,400 pounds
methylene chloride	U080	1,825 pounds
activated alumina, sulfuric demisters	D004	25,000 pounds
deep well filters	D004,D002	5,000 pounds
paint filters	D001,D008	10,000 pounds
methyl ethyl ketone	F005	2,000 pounds

In addition to the hazardous wastes stored here, non hazardous waste such as activated alumina (non hazardous), water softener resin beads and waste oil may be stored in limited quantities. All containerized waste is disposed of at EPA permitted off-site disposal facilities.

C. INJECTION WELL

Danville Works operates an on-site injection well for the disposal of process waste water. This well is drilled to a depth of 4025 feet. The well is permitted and regulated by the IEPA's Underground Injection Control Program. Injection rate and pressure are limited by permit to 150 gpm and 100 psi respectively. The waste stream was described in section A. (Storage Tanks).

D. CARBON TETRACHLORIDE RECOVERY WELLS

Danville Works operates 6 carbon tetrachloride (CCl₄) recovery wells. These wells recover carbon tetrachloride from the ground water immediately beneath the plant. The ground water contamination resulted from an undetected carbon tetrachloride storage tank leak and small spills associated with years of tank car unloading operations. Carbon tetrachloride is stored as a raw material and used in the process.

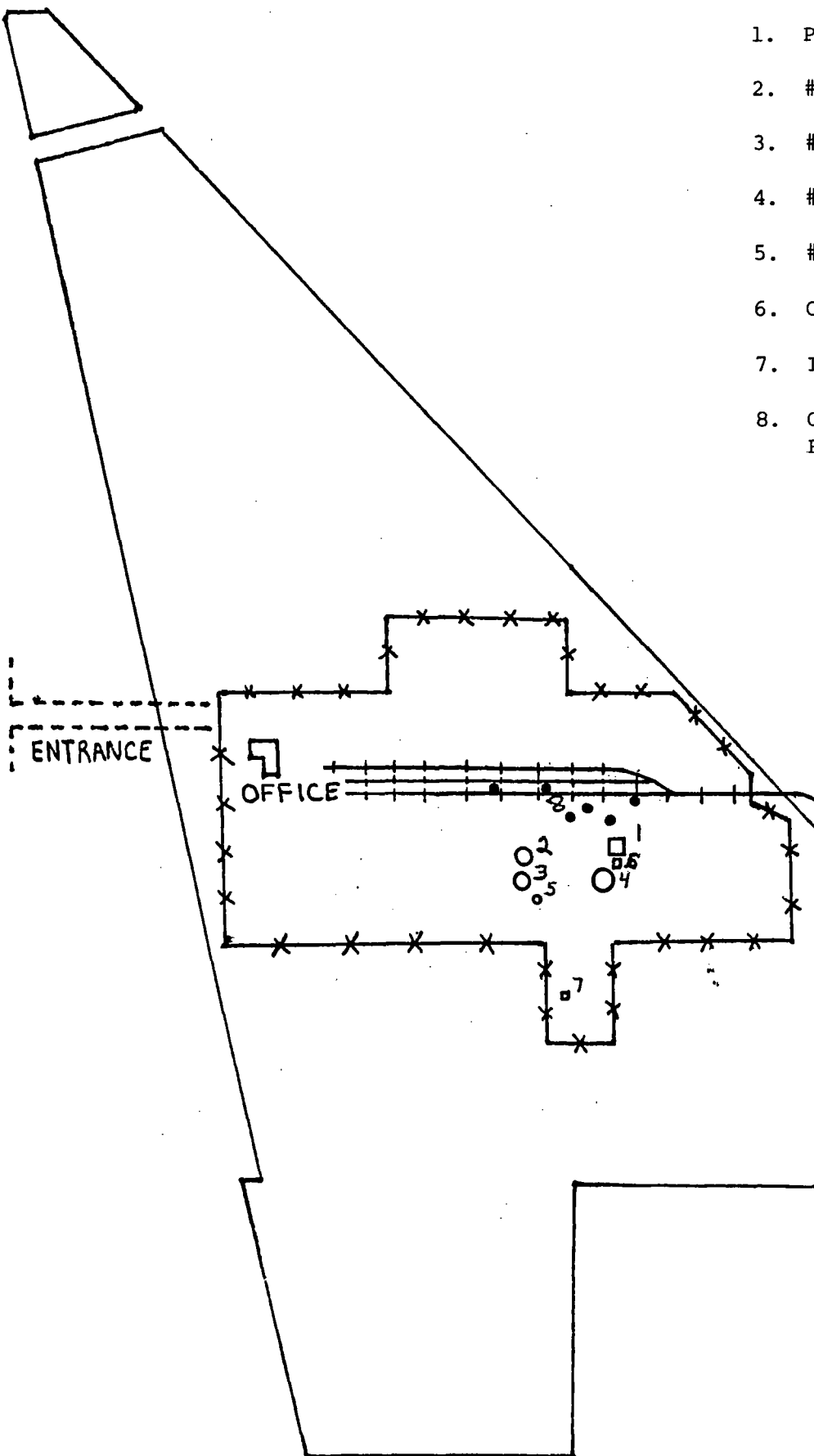
Each recovery well is drilled to a depth of 19-20'. Recovered carbon tetrachloride was initially disposed via the on-site injection wells but is now shipped off-site for incineration. The recovery operation began in 1980 and is continuing today. Our program is monitored by IEPA with quarterly reports being sent to the Division of Land Pollution Control.

D. CARBON TETRACHLORIDE RECOVERY WELLS (CONT.)

Although we have provided information on our carbon tetrachloride recovery operation, the carbon tetrachloride spill was a release of a hazardous substance not a hazardous waste. Therefore this incident should not be regarded as a hazardous waste release.

ATTACHMENT I (CONT.)

1. Process Sump
2. #33 Tank
3. #34 Tank
4. #40 Tank
5. #35 Tank
6. Container Storage Area
7. Injection Well
8. Carbon Tetrachloride Recovery Wells



APPROX. SCALE $\frac{1}{4}" = 100'$

ATTACHMENT II

Based on limited records and discussions with plant personnel, the following releases outside of contained areas are known to have occurred.

A. STORAGE TANKS

PROCESS SUMP On 11/9/79, it appears that while replacing a process sump sewer line, contaminated rainwater entered the plant storm sewer which eventually drains to a nearby creek. Analysis indicated the contaminated rainwater contained 21.5 mg/l Fluoride. A second analyses from a sample taken 2 1/2 hours later was found to be in compliance. This incident was treated as an NPDES permit violation and was reported to IEPA. The permit limit for fluorides was 15. mg/l.

PROCESS SUMP On 2/12/81, the process sump contents overflowed into the storm sewer. This release resulted when the sump pump discharge line froze due to cold weather. The records did not provide an estimate of the amount of waste water spilled. A summary of the analyses is as follows:

<u>DATE</u>	<u>TIME</u>	<u>SAMPLE LOCATION</u>	<u>pH</u>	<u>FLUORIDE mg/l</u>
2-12-81	0903	Sewer Manhole	12.6	770
2-12-81	1105	Outfall 001	12.6	455
2-12-81	1420	Outfall 001	11.9	247
2-12-81	1430	Sewer Manhole	11.5	185
2-12-81	2225	Outfall 001	9.6	50
2-13-81	0700	Sewer Manhole	9.4	29
2-13-81	0758	Outfall 001	9.1	26.5
2-13-81	1330	Outfall 001	8.6	14.8

This incident was treated as an NPDES permit violation and was reported to IEPA. The permit limit for pH and fluoride were 6.0-9.0 and 15 mg/l respectively.

#40 TANK Discussions with plant personnel indicate that #40 tank leaked on more than one occasion. Most of the releases were minor and contained. Non contained leaks (leaks to the ground) were, for the most part, routed to the then active surface impoundment.

B. INJECTION WELL

INJECTION WELL On December 7, 1976, CO₂ gas and waste water blew out of the annulus casing while the injection tubing was being removed from the well. The well was allowed to blow CO₂ gas and water for approximately 12 hours while fresh water was being added in the injection tubing. No estimate of the amount of waste water released was reported, however it is believed that most of the uncontained waste water would have been eventually routed to a nearby creek. At that time arsenic was not present in the deep well effluent as it is characterized in Attachment I.

INJECTION WELL On August 3, 1983, deep well effluent entered the storm sewer when a high pressure rupture disk on the injection line apparently failed. Analysis of a 24 composite sample of Outfall 001 indicated a fluoride concentration of 16.5 mg/L. This incident was treated as an NPDES permit violation and was reported to IEPA. The permit limit for fluoride was 15 mg/L.

CLOSED SURFACE IMPOUNDMENT As previously indicated, Danville Works had previously operated an on-site surface impoundment. This impoundment has since then been drained and closed under IEPA direction. During its use leaks developed in the surface impoundment side walls on occasion. Measures were taken to contain the release to the extent possible. We feel this pond has been successfully closed and have not experienced any problems since closure in 1980. Actual surface impoundment closure was coordinated with IEPA. Quarterly ground water monitoring results which are submitted to IEPA indicate the impoundment contents are being contained. It is also believed this ground water monitoring program would detect any ground water contamination which may result from any plant releases of hazardous material to the environment.

ATTACHMENT III

All available analytical data on each known release of hazardous waste has been provided in Attachments I and II with the exception of our quarterly ground water monitoring results. Since March of 1980, we have sampled and analyzed ground water taken from 15 monitoring wells located throughout the plant and the surrounding area. Each sample is analyzed for temperature, COD, Cl, SO₄, F, B, Sb, CCl₄, ROE, and water depth for a total of approximately 315 samples at 10 parameters each. All results are reported to the Illinois Environmental Protection Agency, Division of Land Pollution Control. Copies of each report can be made available to you upon request.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

230 SOUTH DEARBORN ST.

CHICAGO, ILLINOIS 60604

JUL 29 1985

REPLY TO THE ATTENTION OF:
5HS-13

CERTIFIED MAIL #P 246 373 001
RETURN RECEIPT REQUESTED

Richard L. Purgason, Plant Manager
Allied Chemical Company
Post Office Box 13
Danville, Illinois 61832

Re: Corrective Action Requirements,
Hazardous and Solid Waste
Amendments of 1984
Allied Chemical Company
ILD 005463344

Dear Mr. Purgason:

As you are aware, Illinois Environmental Protection Agency (IEPA) is currently evaluating your request for closure of the above referenced facility which is regulated under the Resource Conservation and Recovery Act (RCRA).

On November 8, 1984, the Hazardous and Solid Waste Amendments of 1984 (the Amendments) were enacted to amend RCRA. Under Section 206 and Section 233 (copies enclosed) of the Amendments, all facilities "seeking a permit" (taken to mean interim status facilities) must provide for corrective action for all releases of hazardous waste or constituents from any solid waste management unit, regardless of the time at which waste was placed in the unit. Please note that both hazardous and non-hazardous waste can meet the definition of solid waste under 40 CFR 261.2. Under the Cooperative Agreement with the United States Environmental Protection Agency (U.S. EPA), the State of Illinois has agreed to implement the corrective action requirements of the Amendments prior to the State getting formally authorized for the provisions of the Amendments.

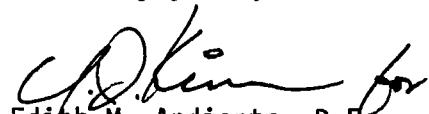
Consequently, we must determine whether such releases have ever occurred at the facility site. If they have, we must ensure that corrective actions either have been taken, or will be taken, pursuant to a decision on your closure plan. An important part of our determination includes your willingness (or unwillingness) to sign the enclosed certification statement. Please read it carefully, and either sign it and return it, or return it to us unsigned with a cover letter of explanation, within three weeks of the date of this letter. Any tentative decision we make regarding releases of hazardous waste or hazardous constituents to the environment will be included in a public notice inviting public comment on our tentative decision. Public notice will be in a newspaper of general circulation in the area of the facility. Please submit copies of your response to:

RCRA ACTIVITIES
Part B Permit Application
U.S. EPA, Region V
P.O. Box A3587
Chicago, Illinois 60690

Lawrence Eastep, Manager
Permit Section, DLPC
Illinois EPA
2200 Churchill Road
Springfield, Illinois 62706

Please call the previously identified contact for this permit application if you have any questions, or wish to discuss this matter further.

Sincerely yours,



Edith M. Ardiente, P.E.
Chief, Technical Programs Section

Enclosures

CONTINUING RELEASES AT PERMITTED FACILITIES

SEC. 206. Section 3004 of the Solid Waste Disposal Act is amended by adding the following new subsection after subsection (t) thereof:

"(u) CONTINUING RELEASES AT PERMITTED FACILITIES.—Standards promulgated under this section shall require, and a permit issued after the date of enactment of the Hazardous and Solid Waste Amendments of 1984 by the Administrator or a State shall require, corrective action for all releases of hazardous waste or constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit under this subtitle, regardless of the time at which waste was placed in such unit. Permits issued under section 3005 shall contain schedules of compliance for such corrective action (where such corrective action cannot be completed prior to issuance of the permit) and assurances of financial responsibility for completing such corrective action."

INTERIM STATUS CORRECTIVE ACTION ORDERS

SEC. 233. (a) Section 3008 of the Solid Waste Disposal Act is amended by adding the following new subsection after subsection (g) thereof:

"(h) INTERIM STATUS CORRECTIVE ACTION ORDERS.—(1) Whenever on the basis of any information the Administrator determines that there is or has been a release of hazardous waste into the environment from a facility authorized to operate under section 3005(e) of this subtitle, the Administrator may issue an order requiring corrective action or such other response measure as he deems necessary to protect human health or the environment or the Administrator may commence a civil action in the United States district court in the district in which the facility is located for appropriate relief, including a temporary or permanent injunction.

"(2) Any order issued under this subsection may include a suspension or revocation of authorization to operate under section 3005(e) of this subtitle, shall state with reasonable specificity the nature of the required corrective action or other response measure, and shall specify a time for compliance. If any person named in an order fails to comply with the order, the Administrator may assess, and such person shall be liable to the United States for, a civil penalty in an amount not to exceed \$25,000 for each day of noncompliance with the order."

(b) Subsection (b) of section 3008 of the Solid Waste Disposal Act is amended by inserting "issued under this section" immediately after "Any order".

CERTIFICATION REGARDING POTENTIAL RELEASES FROM
SOLID WASTE MANAGEMENT UNITS

FACILITY NAME: _____

U.S. EPA I.D. NUMBER: _____

LOCATION CITY: _____

STATE: _____

1. Are there any of the following solid waste management units at your facility?

	<u>YES</u>	<u>NO</u>
◦ Landfill	_____	_____
◦ Surface Impoundment	_____	_____
◦ Land Farm	_____	_____
◦ Waste Pile	_____	_____
◦ Incinerator	_____	_____
◦ Storage Tank (Above Ground)	_____	_____
◦ Storage Tank (Underground)	_____	_____
◦ Container Storage Area	_____	_____
◦ Injection Wells	_____	_____
◦ Wastewater Treatment Units	_____	_____
◦ Transfer Stations	_____	_____
◦ Waste Recycling Operations	_____	_____
◦ Waste Treatment, Detoxification	_____	_____
◦ Other _____	_____	_____

2. If there are "Yes" answers to any of the items in Number 1 above, please provide a description of the wastes that were stored, treated or disposed of in each unit. In particular, please focus on whether or not the wastes would be considered as hazardous wastes or hazardous constituents under RCRA. Also include any available data on quantities or volume of wastes disposed on and the dates of disposal. Please also provide a description of each unit and include capacity, dimensions, location at facility, provide a site plan if available.

NOTE: Hazardous wastes are those identified in 40 CFR 261. Hazardous constituents are those listed in Appendix VIII of 40 CFR 261.

3. For the units noted in Number 1 above, please describe for each unit any data available on any prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the past or still be occurring.

Please provide the following information

- a. Date of release
- b. Type of waste or constituent released
- c. Quantity or volume of waste or constituent released
- d. Describe nature of release (i.e., spill, overflow, ruptured pipe or tank, etc.)

4. In regard to the prior releases described in Number 3 above, please provide (for each unit) any analytical data that may be available which would describe the nature and extent of environmental contamination that exists as a result of such releases. Please focus on concentrations of hazardous wastes or constituents present in contaminated soil or groundwater.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the submittal is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. (42 U.S.C. 6902 et seq. and 40 CFR 270.11(d))

Typed Name and Title

Signature

Date



Planning Research Corporation

PRC Environmental Management, Inc.

303 East Wacker Drive
Suite 500
Chicago, IL 60601
312-856-8700
FAX# 938-0118

February 12, 1990

RECEIVED
FEB 13 1990

RCRA PERMITTING BRANCH
OR/WMD
EPA, REGION V

Mr. Bob Fuhrer
U.S. EPA Region 5
Hazardous Waste Enforcement Branch (5H-11)
230 South Dearborn Street
Chicago, IL 60604

Subject: EPA Contract No. 68-W9-0006
Work Assignment No. R05018
Final Sampling Visit Trip Report
Allied-Signal Corporation, Danville, Illinois

Dear Mr. Fuhrer:

PRC Environmental Management, Inc. is submitting three copies of the final sampling visit trip report for the above referenced assignment.

Versar Inc., subcontractor to PRC on this work assignment, addressed your written comments and revised the draft report.

If you have any questions or comments on these reports, please do not hesitate to call me or Laurie Redeker at (312) 856-8700.

Sincerely,

Tom Hahne
PRC's Technical Monitor of Versar

cc: Laurie Redeker, PRC (letter only)
Rich Gnat, Versar (letter only)
Fred Norling

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PRC Environmental Management, Inc.

303 East Wacker Drive
Suite 500
Chicago, IL 60601
312-856-8700
FAX# 938-0118



Planning Research Corporation

**SAMPLING VISIT TRIP REPORT
FOR SAMPLING AT THE
ALLIED-SIGNAL CORPORATION
DANVILLE, ILLINOIS
FINAL TRIP REPORT**

RECEIVED
FEB 13 1990

**RCRA PERMITTING BRANCH
OR/WMD
EPA, REGION V**

Prepared for

**U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, D.C. 20460**

Work Assignment No.	:	R05018
EPA Region	:	5
Site Number	:	ILD 005 463 344
Date Prepared	:	February 12, 1990
Contract Number	:	68-W9-0006
Prepared by	:	Versar, Inc.
Contractor Project Manager	:	Ed Kriz
Telephone Number	:	312/990-7555
EPA Work Assignment Manager	:	Bob Fuhrer
Telephone Number	:	312/353-4889

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FIGURES, TABLES, AND APPENDICES

Figure 1 - Solid Waste Management Units and Sampling Locations
Allied Signal, Danville, Illinois

Table 1 - Solid Waste Management Units at Allied-Signal, Danville
Illinois

Table 2 - Sample Location Notes, Allied-Signal, Danville, Illinois

Table 3 - Sampling Information

Appendix A - Sample Photo Log

Appendix B - General Photo Log

Appendix C - Chain-of-Custody, Traffic Reports, and Packing List forms

Appendix D - Field Notes

1.0 INTRODUCTION

Versar, Inc. under subcontract with PRC Environmental Management, Inc. (PRC) received a work assignment (No. R05018) from U.S. EPA Region V (TES Contract No. 68-W9-006) to perform a sampling visit as part of a RCRA facility assessment (RFA) at the Allied-Signal Corporation in Danville, Illinois on November 6-7, 1989. The RFA for the Allied-Signal site included: (1) a Preliminary Review (PR) of all available files; (2) a Visual Site Inspection (VSI) on April 25, 1989; and (3) a Sampling Visit (SV) on November 6-7, 1989. As part of this work assignment, a Sampling Visit Work Plan, Quality Assurance Project Plan (QAPP) and a site-specific health and safety plan were prepared and approved prior to the SV.

The object of the facility SV is to identify releases of hazardous waste or hazardous constituents from Solid Waste Management Units (SWMUs) or other areas of concern, through the collection of environmental samples. As a result of the PR and VSI, the U.S. EPA identified nine areas where current or past waste handling or disposal activities indicated possible releases to the environment. These areas are listed in Table 1 and shown in Figure 1. The selection of sampling locations and analytical parameters was based on the sampling plan for the Allied-Signal site developed by the U.S. EPA Work Assignment Manager dated August, 1989.

The sampling team from Versar consisted of Mr. John Angstmann, Environmental Engineer, and Mr. Jeff Rebenschied, Environmental Specialist. Personnel present during the SV were as follows:

U.S. EPA Region V

Mr. Robert Fuhrer

Versar, Inc.

Mr. John Angstmann, Environmental Engineer

Mr. Jeff Rebenschied, Environmental Specialist

TABLE 1

Solid Waste Management Units
At Allied-Signal
Danville, Illinois

UNIT IDENTIFIER ¹	UNIT NAME
1	Inactive Pond #1
2	Inactive Pond #2
3	Closed Pond #3 ²
4	Inactive Pond #4
5	Overhead Injection Line
6	Hazardous Waste Drum Storage Area and Site Drainage Collection Point
7	Main Carbon Tetrachloride Recovery Well Area/General Production Spill Area
8	Deep Well Injection
9	Urethane Foam Burial Site

¹Numbers correspond to units on facility map (Figure 1)

²Pond #3 was closed in 1980 under the direction of IEPA

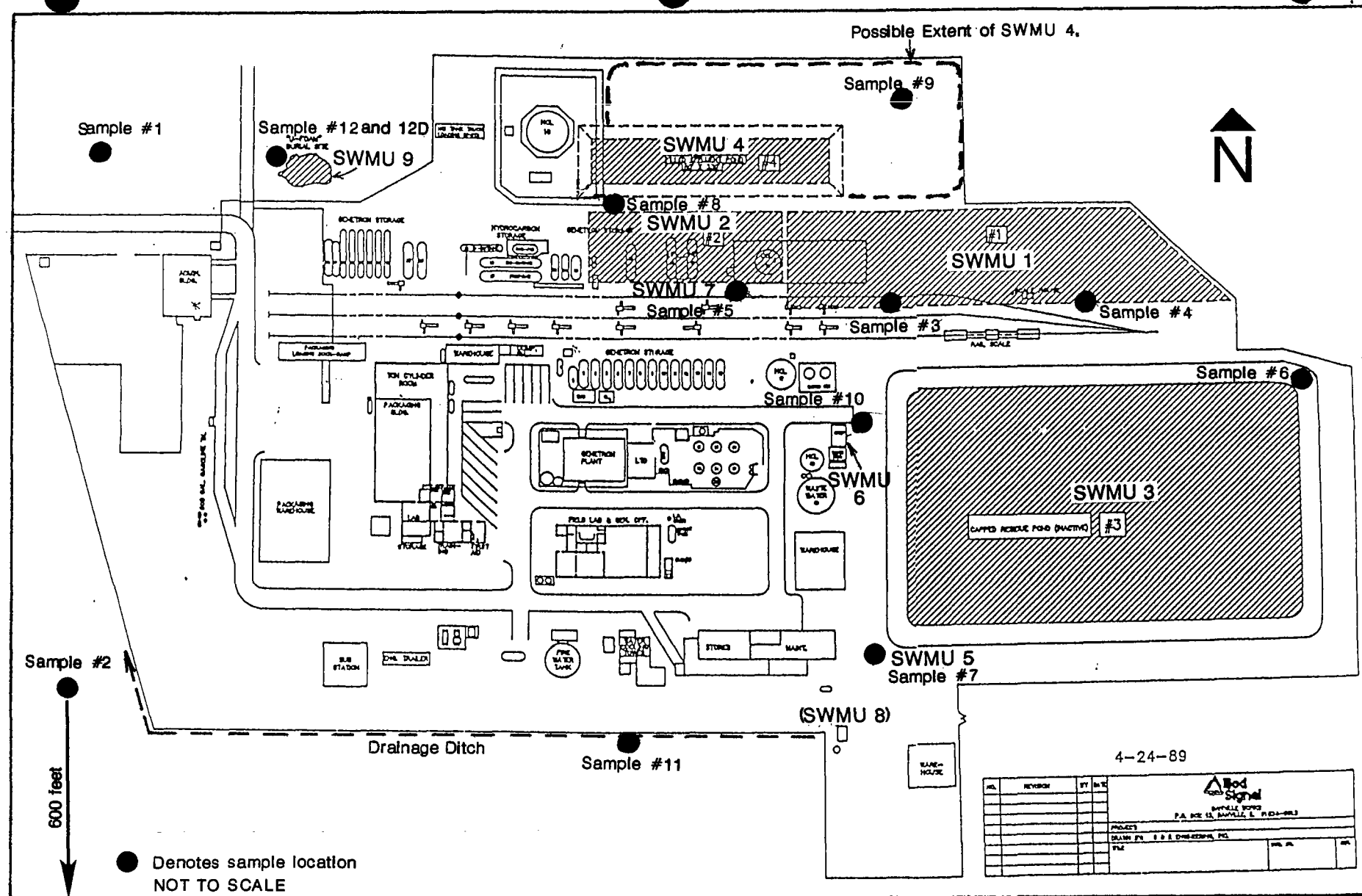


Figure 1.
Solid Waste Management Units and Sampling Locations Allied - Signal, Danville, Illinois
(Modified after Allied - Signal, April 24, 1989)

Allied Signal

Mr. Don Phillips, Plant Manager
B.C. Darji, Environmental Supervisor
Jim Wright, Process Engineer
Mr. Don Hirshmann, Manager of Pollution Control
Mr. Robert Adams, Chemical Technician

1.1 Background

The Allied Chemical Corp. has been operating since 1955 and has practiced deepwell injection under the Underground Injection Control (UIC) program at their plant site in Danville, Illinois since 1973. The plant manufactures refrigerants by the chemical reaction between CCl_4 and HF acid which are listed as hazardous waste (U211 & U134). The process waste consists principally of HCl acid and unreacted HF acid. In 1979 waste was discovered seeping out of Allied's residue pond (surface impoundment). Also in 1979, a leak in the CCl_4 tank and a plume of CCl_4 in groundwater were discovered. Presently, 11,000 gallons of CCl_4 have been recovered since 1979. There are four inactive waste disposal ponds on the site. Ponds 1, 2, & 4 were covered with soil and gravel; at some later date tanks were constructed over pond #2. Pond #3 was closed under the direction of the Illinois Environmental Protection Agency (IEPA) in 1980.

2.0 SITE CONDITIONS

The U.S. EPA identified ten sampling locations to assess the possible release of hazardous waste or hazardous constituents from the SWMUs to the environment. Two background sample locations and one field duplicate were also identified by the U.S. EPA. Versar collected soil samples at locations specified by the U.S. EPA WAM in the field.

2.1 Weather Conditions

On November 6, 1989 the weather conditions were partly sunny, with the temperature in the high 50's to low 60's °F. On November 7, 1989 the weather conditions consisted of scattered showers in the early morning and partly cloudy in the afternoon with the temperature in the high 40's to the low 50's °F. These weather conditions did not impact sample quality or representativeness.

2.2 Facility Conditions

Facility personnel were cooperative during the SV. Exact procedures to be undertaken by U.S. EPA and Versar were explained during a brief on-site meeting. All required logistical and general site accessibility information was obtained from the site representatives present. A walkthrough was performed with U.S. EPA and plant personnel to determine sample location accessibility.

2.3 Accessibility of the Sampling Visit

All sample collection areas were easily accessible. Table 2 outlines sampling accessibility and Figure 1 shows sample locations. Photographs of each sampling location are provided in Appendix A.

2.4 Potential / Actual Health and Safety Concerns

No obvious health or safety concerns were visually identified during the site walk-through and sample collection. The sample collection team wore proper protective clothing (ie., tyvek coveralls, nitrile

TABLE 2
Sample Location Notes
Allied-Signal Danville, Illinois

<u>SAMPLE</u>	<u>SAMPLE LOCATION ACCESSIBILITY AND CONDITIONS</u>
1.	Wooded area, moderate vegetation, restricted movement.
2.	Large open field, light vegetation, non-restricted movement.
3.	Open area, rocky, no vegetation, semi-restricted movement.
4.	Open and rocky area, no vegetation, semi-restricted movement.
5.	Open and rocky area, no vegetation, semi-restricted movement.
6.	Open area, light vegetation, non-restricted movement.
7.	Open and rocky area, no vegetation, non-restricted movement.
8.	Open and rocky area, no vegetation, non-restricted movement.
9.	Large open field, light vegetation, non-restricted movement.
10.	Open and rocky area, no vegetation, semi-restricted area.
11.	Marshy area, light vegetation, semi-restricted movement.
12.	Wooded area, moderate vegetation, restricted movement.

gloves, latex booties) depending on the conditions of the area being sampled and in accordance with the health and safety plan.

An HNu model 101, photoionization detector with a 10.2 eV probe was used to monitor for total organic vapors during the sampling event. This instrument was calibrated against a benzene equivalent standard before each days use. Initial background readings were <2.0 ppm. None of the field screening measurements taken with the photoionization detector in the breathing zone, from the soil samples, or from the boreholes, exceeded background levels of <2.0 ppm.

3.0 SUMMARY OF SAMPLING VISIT

3.1 General Information

The Versar sampling team arrived at the Allied-Signal facility on November 6, 1989 at 8:00 am. At 8:15 am a meeting was held between plant personnel, U.S. EPA, and Versar to discuss sampling procedure protocols. At 8:30 am, a general tour of the facility was given to determine the strategy for sampling procedures. Photographs of the facility, and sampling and monitoring equipment are shown in Appendix B.

3.2 Sample Collection Procedures

A total of 13 soil samples (12 investigative sample locations plus one duplicate) were collected at the Allied-Signal facility. Ten samples were collected in the vicinity of previously identified solid waste management units (SWMU), two samples were collected as background samples from a wooded area and open agricultural field in the vicinity of the plant, and one duplicate sample was collected for field and laboratory quality assurance/quality control. All samples were packaged and sent to be analyzed for Target Compound List (TCL) VOCs, Target Analyze List (TAL) metals, pH, acidity, chloride, fluoride, and sulfate. There was some indication that several CLP laboratories could not analyze the soil samples for pH and acidity. It is Versar's understanding that appropriate laboratories for these analyses were assigned. The sampling procedures are described below.

Subsurface soil samples were collected with a handheld stainless steel auger (Appendix B, photo 3). The handheld auger was decontaminated before each use as defined in Section 3.3. The auger was used to reach the desired sample depth. After the sample depth was reached, the auger was removed from the borehole and the contents emptied into an aluminum tray. In areas where the handheld auger was inoperable due to the soil conditions, a power auger with an 8" bit was used (Appendix A and B, photo 3). The 8" bit was also decontaminated before each use. The power auger was used to bore to a depth where a representative soil

sample could be obtained. Once this was completed the handheld stainless steel auger was used to collect the sample. Individual sample intervals for each sample are shown in Table 3. Nonrepresentative material such as glass fragments or large gravel pieces were removed before mixing.

Versar collected all soil samples by compositing several soil augerings from each boring. Samples to be analyzed for VOCs were also mixed in an attempt to provide representative sample splits to Allied-Signal. This sample collection method for VOCs altered slightly from the Sampling Visit Work Plan, however the samples are believed to be representative.

Upon completion of compositing, the samples were transferred directly into laboratory prepared containers. Table 3 includes the date, time, sample number, organic traffic report number, inorganic traffic number, SAS packing list number, location of sample taken, sample matrix, sample depth, method of collection and any comments concerning that sample.

3.3 Decontamination Procedures

All sampling equipment was thoroughly decontaminated before the first sampling and after each subsequent use. The following decontamination procedure was used:

- 1) Thoroughly wash with non phosphate detergent
- 2) Rinse with tap water
- 3) Rinse with deionized water
- 4) Rinse with 5-percent nitric acid
- 5) Rinse with deionized water
- 6) Wrap in aluminum or seal in plastic.

All rinse water was disposed on-site in the vicinity of each sample

TABLE 3
Sampling Information
Allied-Signal Danville, Illinois

Date	Time	Sample Number	Organic Traffic Number	Inorganic Traffic Number	SAS Packing List No.	Location	Matrix	Sample Depth	Method of Collection	Comments
11/06/89	0930	1	EFR 81	MEEZ 71	5064E-01	Northwest of Plant (background)	Soil	4"-6"	Hand scoop	Black top soil
11/06/89	1030	2	EFR 82	MEEZ 72	5064E-02	Southeast of Plant (background)	Soil	6"-15"	Hand auger	Black soil with some cinders
11/06/89	1200	3	EFR 83	MEEZ 73	5064E-03	SWMU1-east of roadway, north of railroad tracks	Soil	21"-30"	Power auger to 21" then hand auger	Gravel layer one foot deep. Sample was semi-compacted brown clay with black organic material and orange mottling.
11/06/89	1245	4	EFR 84	MEEZ 74	5064E-04	SWMU1-between railroad trucks and unit	Soil	24"-30"	Power auger to 24" then hand auger	Sample was semi-loose light brown clay. Due to insufficient sample volume, a separate aliquot of tan clay was collected for the SAS sample.
11/06/89	1500	5	EFR 85	MEEZ 75	5064E-05	SWMU2-between HCL tank and railroad	Soil	30"-36"	Power auger to 24" then hand auger	Sample was semi-loose tan to light brown clay.
11/06/89	1600	6	EFR 86	MEEZ 76	5064E-06	SWMU3-northeast corner	Soil	24"-43"	Hand auger	Sample was highly homogeneous tight brown clay - different from clays sampled at locations 3, 4, and 5. Groundwater was encountered at 3 feet deep.
11/06/89	1700	7	EFR 87	MEEZ 77	5064E-07	SWMU3-southwest corner	Soil	28"-34"	Power auger to 28" then hand auger	Sample was clay similar to sample #6. Hole filled with groundwater before hand augering.
11/07/89	0900	8	EFR 88	MEEZ 78	5064E-08	SWMU4-southwest corner	Soil	24"-30"	Power auger to 24" then hand auger	Gravel layer of one foot. Sample was tan to brown clay, slightly compacted.
11/07/89	0930	9	EFR 89	MEEZ 79	5064E-09	SWMU4-near north west corner	Soil	20"-38"	Hand auger	Sample was homogeneous light brown clay, semi-compacted.
11/07/89	1030	10	EFR 90	MEEZ 80	5064E-10	SWMU6-west of roadway	Soil	38"-42"	Power auger to 38" then hand auger	Sample was non-homogeneous sandy-gravel and very wet. Hole filled with water during sampling.
11/07/89	1130	11	EFR 91	MEEZ 81	5064E-11	SWMU8-north side of creek	Soil	36"-48"	Hand auger	Sample was homogeneous tan clay, semi-loose. Hole filled with water during sampling.
11/07/89	1230	12	EFR 92	MEEZ 82	5064E-12	SWMU9-west of unit	Soil	36"-48"	Hand auger	Sample was homogeneous tan clay, semi-loose.
11/07/89	1230	12D	EFR 93	MEEZ 83	5064E-13	SWMU9-west of unit (duplicate)	Soil	36"-48"	Hand auger	Duplicate of sample #12.

location, with the cognizance of the U.S. EPA WAM and site representatives.

3.4 Field QC Procedures

The following procedures were used in the field to insure preserving sample integrity and quality:

- Strict sample equipment decontamination procedures were used prior to each sampling to prevent potential for sample cross-contamination;
- Sampling personnel donned clean outer gloves prior to sample collection at each station to prevent potential sample cross-contamination.
- Samples were placed into laboratory prepared sample jars obtained from I-Chem Research, which includes specific lot numbers for each sample jar batch. This will allow identifying potential sample bottle derived contaminants if such are suspected.
- A duplicate soil sample was collected for an indication of overall precision, both in the field and in the laboratory.
- Samples were preserved, packaged and shipped in accordance with accepted U.S. EPA guidelines and the Sampling Visit Work Plan/QAPP.

Samples were shipped to three separate laboratories within the CLP (Gulf South Environmental Labs, Skinner and Sherman Labs, and Versar, Inc.) as assigned by the U.S. EPA Sample Management Office (SMO) depending on the analyses to be performed. The same chain-of-custody form was sent with each sample shipment. Versar was notified by the EPA Region V CLP Coordinator that a unique chain-of-custody form should have been sent with each sample shipment. Based on a telephone conversation with the CLP Coordinator, all appropriate sample bottles were received at each designated laboratory.

3.5 Completion of Activities

All on-site sampling was completed by 1:00 pm, November 7, 1989. The sampling personnel repacked all samples in an ice-filled cooler and verified that all samples were accounted for. Completed sample traffic

reports and packing lists were correlated with chain-of-custody reports (Appendix C). In addition to chain-of-custody records, sampling personnel prepared RAS traffic reports and SAS packing lists in accordance with CLP Region V requirements. The traffic reports and packing lists accompanied the samples to the laboratories and contained the site name, samplers' names, sample description, and sample location. The traffic reports and packing lists were provided by Central Regional Laboratory, U.S. EPA, Region V. Sample forms were completed by 5:00 pm. All forms were shipped with the samples in sealed coolers. After the shipment was accepted by Federal Express, the sampling personnel called the Sample Management Office (SMO) and notified SMO of the shipment. Field notes documenting all aspects of the sampling event are shown in Appendix D.



Photo No.: 3	Location: Southwest of SWMU 1
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Comments: Sample 3. Picture of augered hole with power auger facing west.



Photo No.: 4	Location: Southeast of SWMU 1
--------------	-------------------------------

Comments: Sample 4. Picture of augered hole facing west.



Photo No.: 1	Location: North of Facility
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Comments: Sample 1. Background; picture of augered hole facing north.



Photo No.: 2	Location: Southwest of Facility
--------------	---------------------------------

Comments: Sample 2. Background; picture of augered hole facing north.



Photo No.: 7	Location: A SWMU 5
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Comments: Sample 7. Picture of augered hole facing east.



Photo No.: 5	Location: A SWMU 7
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Comments: Sample 5. Picture of augered hole facing west.



Photo No.: 8	Location: Southwest of SWMU 4
--------------	-------------------------------

Comments: Sample 8. Picture of augered hole facing north.



Photo No.: 6	Location: Northwest of SWMU 3
--------------	-------------------------------

Comments: Sample 6. Picture of augered hole facing west.



Photo No.: 11	Location: A SWMU 8
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Comments: Sample 11. Picture of sampling personnel with handheld auger facing east.



Photo No.: 12	Location: West of SWMU 9
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Comments: Sample 12. Picture of augered hole facing south.



Photo No.: 9	Location: Northeast of SWMU 4
--------------	-------------------------------

Comments: Sample 9. Picture of augered hole facing east.



Photo No.: 10	Location: North of SWMU 6
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Comments: Sample 10. Picture of augered hole facing north.



Photo No.: 3	Location: A SWMU 7
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Comments: Sample #5. Versar personnel removing soil from stainless steel auger.



Photo No.: 4	Location: Southwest of SWMU 4
--------------	-------------------------------

Comments: Sample #8. General photo facing northeast; sampling personnel in background.



Photo No.: 1	Location: West of facility facing south
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Comments: Photo taken after completing sample #1.



Photo No.: 2	Location: Southwest of facility facing northeast
--------------	--

Comments: Photo taken after completing sample #2.

Allied-Signal Corporation
Danville, Illinois



Photo No.: 5	Location: Southwest of SWMU 4
--------------	-------------------------------

Comments: Sample #8. Versar sampling personnel filling sampling jars with Allied-Signal personnel observing (right). Versar personnel decontaminating stainless steel auger (background).



Photo No.: 6	Location: A SWMU 8
--------------	--------------------

Comments: Sample #11. Versar sampling personnel obtaining soil sample (foreground). HNu photoionization detector nearby. Allied-Signal representative observing (background).

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.		PROJECT NAME				NO. OF CON- TAINERS								REMARKS
SAMPLERS: (Signature) <i>John Kingston</i> <i>Jeffrey E. Reberschneid</i>														
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION		VOCs	Total Metals	pH	Acidity	Chloride	Fluoride	Sulfate	
1	11/6/89	0930		X	Background NE of Plant	4	X	X	X	X	X	X		
2	11/6/89	1030		X	Background SW of Plant	4								
3	11/6/89	1200		X	SWMU 1 - East	4								
4	11/6/89	1245		X	SWMU 1 - West	4								
5	11/6/89	1500		X	SWMU 2	4								
6	11/6/89	1600		X	SWMU 3 - northeast	4								
7	11/6/89	1700		X	SWMU 3 - southwest	4								
8	11/7/89	0900		X	SWMU 4 (south)	4								
9	11/7/89	0930		X	SWMU 4 Northeast corner	4								
10	11/7/89	1030		X	SWMU 6 central east	4								
11	11/7/89	1130		X	SWMU 8 south	4								
12	11/7/89	1230		X	SWMU 9 northeast	4								
13	11/1/89	1230		X	SWMU 9 northeast	4	↓	↓	↓	↓	↓	↓	Duplicate	
Relinquished by: (Signature) <i>John Kingston</i>						Date / Time 11/8/89 4:15 PM		Received by: (Signature)			Relinquished by: (Signature)		Date / Time	Received by: (Signature)
Relinquished by: (Signature)						Date / Time		Received by: (Signature)			Relinquished by: (Signature)		Date / Time	Received by: (Signature)
Relinquished by: (Signature)						Date / Time		Received for Laboratory by: (Signature)			Date / Time		Remarks	

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

EPA Form 9110-2 (8-88) Replaces EPA Form 2075-7, which may be used. Blue - SMO Copy Pink - Region Copy White - Lab Copy for Return to SMO Yellow - Lab Copy

U.S. ENVIRONMENTAL PROTECTION AGENCY
CLP Sample Management Office
P.O. Box 818 - Alexandria, Virginia 22313
Phone: 703/557-2490 - FTS/557-2490

SAS Number
5064E

SPECIAL ANALYTICAL SERVICE
PACKING LIST

Sampling Office: <u>Region II</u>	Sampling Date(s): <u>11/6 and 7/89</u>	Ship To: ^{Attn: Tony Neski} <u>Versar, Inc.</u> <u>6850 Versar Center</u> <u>Springfield, VA</u> <u>22151</u>	For Lab Use Only
Sampling Contact: <u>Bob Fahrey</u> (name)	Date Shipped: <u>11/7/89</u>	Federal Express #4664353013 Attn: Tony Neski	Date Samples Rec'd:
<u>312/353-4889</u> (phone)	Site Name/Code: <u>Allied-Signal</u>		Received By:

Sample Numbers	Sample Description i.e., Analysis, Matrix, Concentration	Sample Condition on Receipt at Lab
1. <u>5064E-01</u>	<u>Low conc. soil - pH, acidity, chloride, fluoride, sulfate</u>	
2. <u>5064E-02</u>		
3. <u>5064E-03</u>		
4. <u>5064E-04</u>		
5. <u>5064E-05</u>		
6. <u>5064E-06</u>		
7. <u>5064E-07</u>		
8. <u>5064E-08</u>		
9. <u>5064E-09</u>		
10. <u>5064E-10</u>		
11. <u>5064E-11</u>		
12. <u>5064E-12</u>		
13. <u>5064E-13</u>		
14. _____		
15. _____		
16. _____		
17. _____		
18. _____		
19. _____		
20. _____		

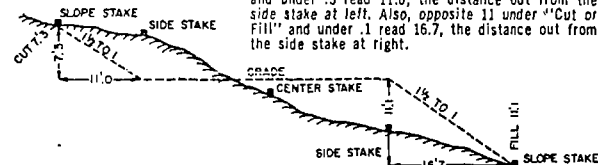
For Lab Use Only

White - SMO Copy, Yellow - Region Copy, Pink - Lab Copy for return to SMO, Gold - Lab Copy

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

Roadway of any Width. Side Slopes 1 1/2 to 1.

In the figure below: opposite 7 under "Cut or Fill" and under .3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .1 read 16.7, the distance out from the side stake at right.



	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
Cut or Fill	Distance out from Side or Shoulder Stake										Cut or Fill
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
24	36.0	36.2	36.3	36.5	36.6	36.8	36.9	37.1	37.2	37.4	24
25	37.5	37.7	37.8	38.0	38.1	38.3	38.4	38.6	38.7	38.9	25
26	39.0	39.2	39.3	39.5	39.6	39.8	39.9	40.1	40.2	40.4	26
27	40.5	40.7	40.8	41.0	41.1	41.3	41.4	41.6	41.7	41.9	27
28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

KEUFFEL & ESSER CO.

For Curve Tables see end of book.

Allied Signal, Danville: 1
 - Don Phillips, Plant Mng'r
 - Don Hirschman, Mng'r. Poll. Control.
 - B.C. Darji, Environ. Supervisor
 Bob Fuhrer, EPA Contact (Region II)
 Jim Wright, Process Engr.,
 Allied-Signal, Danville
 Robert Adams, Chem LAB

Federal Express

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Loren } Region II SMD
 Emmanuel }



The paper in this book is made of 50% high grade rag stock with a WATER RESISTING surface sizing.

KEUFFEL & ESSER CO.

11/6/89 JPA

11/6/89³

0815 Meeting w/ plant personnel

- discussed sampling equipment
- general introductions
- provided 3 copies of sampling plan
- comment made that Cl, F1, SO₂ only used as indicator of haz. substances.

0830 Toured facility to look at sampling locations

- all seem to be easily accessed and able to be sampled using the hand auger

0910 Staging equipment in the van and decanning sampling scoops

11/6/89 JH

0930 Collected sample from
Background 1
- approx 10' into
woods
RIP12 facing N
RIP13 facing S

Sample collected
using spades @
depth of 4-6 inches

1000 Setting up @ Background 2

1030 Collected sample
from Background 2
between railroad
tracks (abandoned)
and leased farm field

Sample collected from
6" to 1'-3" deep
using a hand auger

RIP14 augered hole
RIP15 Facing northeast
11/6/89 JH

1100 Decanned auger
and went for ice

1130 used power auger
to go through
layer of rock (1' deep)

1145 used decanned ~~to~~ hand
auger hit clay @ 1'-9"
changed bit to
clay auger

1200 collected sample 3
total depth of hole
2 1/2 feet

HNA reading background
in hole and
of sample

power auger was
shut off when prepre
sample was collected

brown clay w/ dark black and
rust color mottling 11/6/89 JH

1215 deconning equipment

RIP16 sample location
facing west.

1245 Collected Sample 4
using power auger
to advance the hole
2 feet - then hand
auger was used
to advance the hole
to 2 1/2 feet deep

dry lt. brown clay

clay was looser and
less compacted
than sample #3

RIP17 sample location
facing west.

Note: tan soil collected for SAS split

1315 deconning equipment

11/6/89 JFA

1330 lunch
called office
tried to track down
Federal Express

According to Judy Klieiman,
USEPA CLP Coordinator,
we can ship out all the
soil samples at one time.

1444 Back on site
Staging equipment at
sample #15.

1500 Collected Sample #5
Advanced hole 2 feet
deep using power auger
collected sample from
2 1/2 - 3 feet deep using
hand auger

HVU in hole & sample road
background.

RIP18 picture taken by
R. Fuhrer of us sampling.
11/6/89 JFA

8
RIP19 the location
of sample

tan to lt. brown clay
soil - slightly loose

1530 Decon equip and load up
to move to Sample #6

1600 Collected Sample #6

Used hand held auger
w/ clay bit.

The clay seemed different
than other clay
encountered at the site.

The sample was taken
from 2'-3'-7", water
was encountered at
about 3'

The clay was very homo-
genous and may have
been the same used

11/6/89 JH

9
to cap the impoundment
(SWMN 3)

HNU in hole and sample read
background

1630, Deconning equipment
and load up to
move to sample #7

RIP20 sample location facing south.

1700 Collected Sample #7

Used power auger to
advance 2'-4" used
hand auger to go 6"

hole filled with water
before using hand auger

clay similar to sample 6
very wet

HNU in hole and sample read
background 11/6/89 JH

no picture taken
since too dark

1730 Decurring
equipment and
load van

Signed out at gate
house and left
the site

Summary:

Collected 7 samples

Power auger is used
when gravel is present

Sample is collected using
hand auger

~~John T. Anger~~ 11/6/89

11/7/89 11

Arrived on site at 8:00 AM

signed in
called office

- B.C. will arrange for
Fed Ex pickup for 4 PM.
- will give me acct. # when
I call back

RIP21 sample location

John T. Anger 11/7/89

0900 Collected sample #8 using
power auger south of SWMU 4

John operating unit & decor
Jeff taking samples

Depth of sample 2'6" used clay auger
no indications of organics by HNU
HNU at background

0915 EPA Rep arrived on site

- B.C. of Allied
Don of Allied

picture taken RIP23

Jeffrey E. Richardson 11/7/89

12

0920 use hand held auger

0930 Sample 9 collected

Homogeneous lt. brown
clay - semi compacted.

HNU possibly needs
to be calibrated

Final depth of hole 3'-2"

R1P24 sample location
facing east.

R1P25 across SWMU 4
Facing northeast

John St. Lageth 11/7/89

1030 sample 10 collected

Shallow sandy-gravel nonhomogeneous
noncompacted, very wet
mudlike material.

3'-8" depth of hole

R2P1 facing N South of
HCl tank Jiffy E. Kuyupchui
11/7/89

13

1130 Sample 11 collected

homogeneous tan clay
2-3 feet deep

background in HNU for
sample and hole.

R2P2 taken by Bob Fuhrer

R2P3 sample location -
facing east.

→ 1230 sample 12 collected

~~near John St. Lageth~~
tan homogeneous clay
3-4 feet deep

11/7/89

background for HNU near for
sample and hole

R2P4 facing E sample location

R2P5 facing S. sample location